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LOUISIANA STATE MEDICAL SOCIETY

JANUARY, 1953

LOUISIANA STATE MEDICAL SOCIETY

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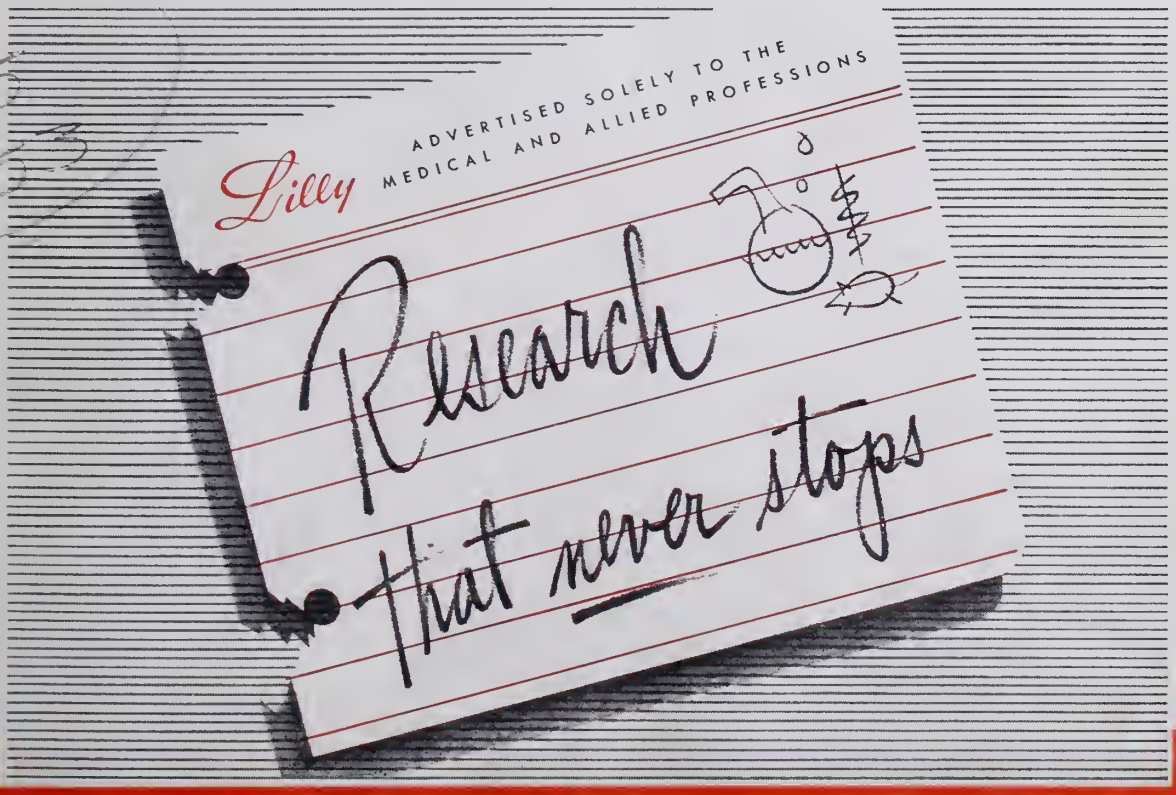

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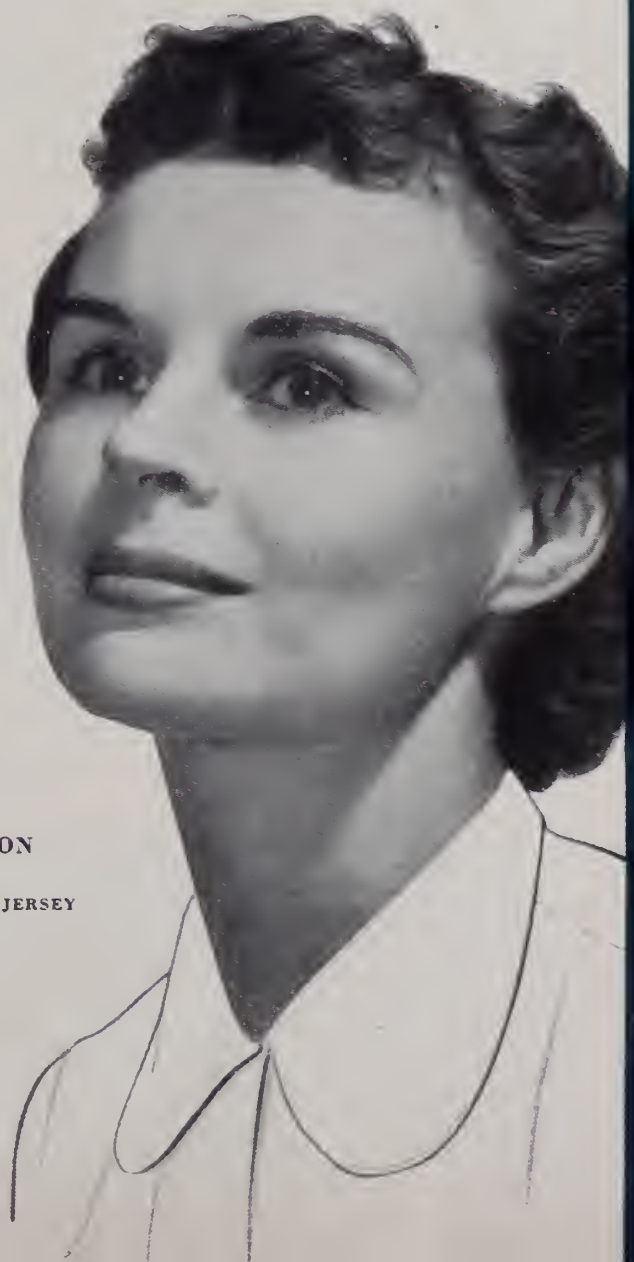

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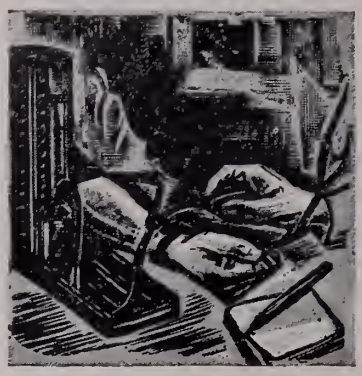
1. Merryman, M. P.: The Use of the Low Sodium Diet. South Dakota Jour. Med. & Pharm., 2:57, Feb., 1949.
2. Heller, E. M.: The Treatment of Essential Hypertension. Canad. Med. Assn. Jour., 61:293, Sept., 1949.

*Author unidentified. From Mencken, H. L.: A New Dictionary of Quotations. New York, Alfred A. Knopf, 1942, p. 1057.



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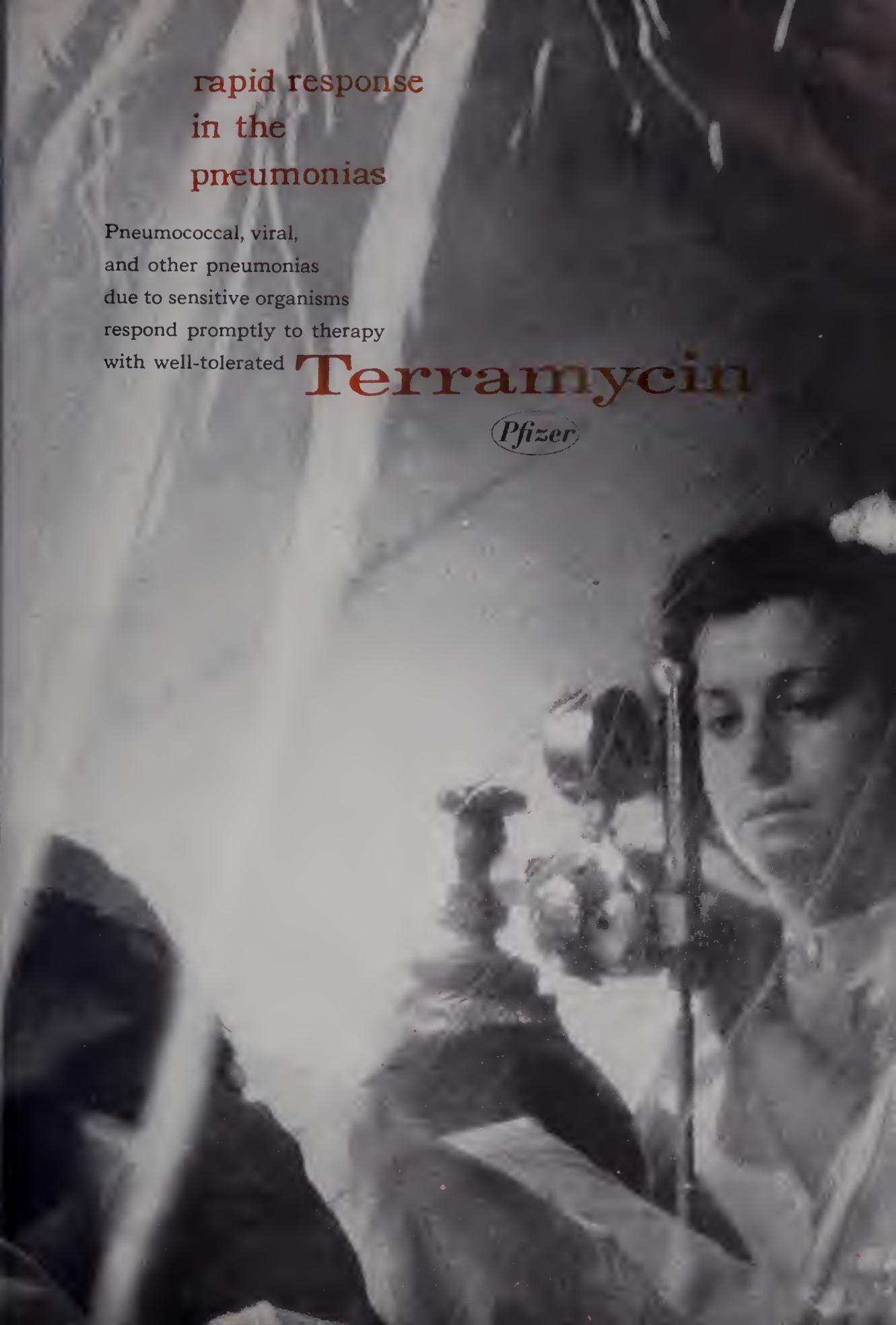

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1. Reich, W. J., et al. (1952), A Recent Advance in Estragen Therapy. II. Amer. J. Obst. & Gynec., 64:174, July. 2. Reich, W. J., et al. (1951), A Recent Advance in Estragen Therapy. I. Amer. J. Obst. & Gynec., 62:427, August.

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5. Nonhemolytic streptococci	Some cases of endocarditis, genito-urinary tract infections

*References

1. Heilman, F. R., Herrell, W. E., Wellman, W. E., and Geraci, J. E.: Some Laboratory and Clinical Observations on a New Antibiotic, Erythromycin ('Ilotycin'), Proc. Staff Meet., Mayo Clin., 27:285 (July 16), 1952. 2. Haight, T. H., and Finland, M.: Laboratory and Clinical Studies on Erythromycin, New England J. Med., 247:227 (August 14), 1952. 3. Smith, J. W., Dyke, R. W., and Griffith, R. S.: Erythromycin: Studies on Absorption Following Oral Administration and on Treatment of 33 Patients, to be published. 4. Spink, W. W.: Personal communications. 5. Romansky, M. J.: Personal communications.

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JANUARY, 1953

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MATERNAL MORTALITY AT SHREVEPORT CHARITY HOSPITAL*

C. R. MAYS, M. D.
W. C. ELLIS, M. D.
F. A. SEWELL, M. D.

SHREVEPORT

The present report represents an analysis of the charts of pregnant women who died in Charity Hospital between 1941 and 1951, inclusive. All deaths associated with abortion, ectopic pregnancy, medical and surgical disease, as well as all pregnancies admitted to the obstetric floor for delivery or observation, are included. The object of the present autobiographical report is to analyze our results and to subject our failures to self-criticism.

For the benefit of those not familiar with the set-up of our service it is appropriate that the organization of the department over the period under study be briefly reviewed. Prior to 1943, we had no full time residents. From 1943 to 1947, one resident in obstetrics managed the service with the aid of two internes and one visiting man. Since 1947, we have had a staff of four to six visiting men, all either board certified or sufficiently trained to meet board requirements. After the war we recruited a staff of from three to four house residents and two internes, the latter rotating through the service for a two month period.

The service has grown to the point of being the eighteenth largest obstetrical unit in the country. Considering its size of over 4000 deliveries and 5000 admissions last year, it has been at least from a quantitative standpoint one of the most undermanned large obstetric service in the country. Even yet we do not have full approval of our service for postgraduate training by the Council on Medical Education of the American Medical Association, and this is handicapping us in recruiting an adequate resident staff. We have delivered from 2281 to 4176 babies per year from 45 beds assigned to the department. We will move into a more adequate physical facility, the new Confederate Memorial Medical Center, by 1953.

In the period covered by this report there were 28,915 admissions, 27,746 live births, and 63 deaths from all causes, with 56 deaths directly attributable to obstetrical causes.

For the purpose of comparing our changing death rates and distribution of causes of deaths over the period of years we have divided the study into two periods. Period I was from 1941 to 1945, inclusive, and period II was from 1946 to 1951, inclusive, (Table 1). In period I there were 9,164 live births and 36 deaths, yielding a death rate of 39 per 10,000 live births. In period II, there were 18,600 live births and 27 deaths, giving a death rate of 14 per 10,000 live births. When these deaths are corrected to exclude abortions, ectopic pregnancies under five months' gestation, and a miscellaneous group of medical diseases, including 2 burns, 1 sickle cell anemia crisis, 1 adenocarcinoma of the colon, 1 nephrosclerosis, 2 myelogeneous leukemias, and 1 case of typhoid fever, the corrected mortality was 28 per 10,000 live births in period

*Presented at the Seventy-second Annual Meeting of the Louisiana State Medical Society, Shreveport, April 30, 1952.

TABLE 1
MORTALITY RATE—GROSS AND CORRECTED FOR PERIODS I AND II

	Total Live Births	Total Deaths Gross	Rate/10,000 Live Births	Total Deaths Corrected	Rate/10,000 Live Births
Period I (1941-1945)	9,164	36	39	26	28
Period II (1946-1951)	18,600	27	14	21	11

I and 11 per 10,000 live births in period II.

We consider that these rates should not be compared with those reported by other obstetric services whose reported period of study ended from three to five years ago. Maternal death rates are declining so rapidly from year to year everywhere that such a comparison would be fallacious.

The maternal death rate for the city of Shreveport, from 1945 to 1950, was 11.5 per 10,000 live births. It becomes apparent that our death rate parallels that of the community in which the hospital is located. As will be shown later the great improvement in the death rate in the second period is due in a large measure to the effectiveness of antibiotics in controlling infection. However, this is not the only factor. A larger resident and visiting staff with closer supervision and better standardizations of methods of meeting complications has caused a gratifying, though not yet satisfying, decrease in deaths from all causes. Table 2 shows the change in distribution of causes of deaths in the two periods. Septic deaths following delivery accounted for 13 or 36 per cent of the deaths in period I, and 3 or 7.4 per cent of the deaths in period II. Postabortal sepsis accounted for 16.6 per cent of the deaths in period I and there were none in period II.

In spite of the free use of transfusions, hemorrhage has moved to first place as a cause of death in the second period accounting for 37 per cent of all deaths as compared to 19 per cent in the first period. This does not represent an absolute increase in death rate from hemorrhage but a relative increase in its place of seriousness as a lethal factor.

The over-all picture is one of increasing relative importance of hemorrhage and coincidental medical complications as a cause of death along with a nearly stationary position of the toxemias as a lethal factor. There was a sharp drop in the frequency of septic death in period II.

SEPTIC DEATHS

Septic deaths included 5 postpartal, 6 postabortal infections and 2 cases of peritonitis following accidents of delivery accounting for 13 or 36 per cent of all deaths in period I. In period II, there were 3 septic deaths, 1 from pyelonephritis and 2 following ruptured uterus, accounting for 11 per cent of the deaths. Among the 39,915 total admissions for the entire period studied, 16 or 25.4 per cent of the deaths resulted from sepsis of all types. Seven or 44 per cent of these deaths occurred among 4,185 admissions in 1941 and 1942, before we had free use of antibiotics.

The septic deaths in the second period decreased at the rate of 89 per cent over period I. In the last 21,328 admissions (since 1944) we would have had only 1 strictly puerperal septic death had a sponge not been accidentally left in a patient's abdomen following hysterectomy for ruptured uterus.

TOXEMIA OF PREGNANCY AS A CAUSE OF DEATH

Table 2 shows that 17 of the 63 deaths in this series were caused by toxemia of pregnancy. If the 6 cases of fatal abruptio placenta are added to this list, then 23 or 34.9 per cent of our deaths can be attributed to this disease. Only 19.8 per cent of our patients have been registered in our prenatal clinics. Practically none of the others received adequate prenatal care and most received none at all.

We have not gathered accurate data on the incidence of toxemia for our service for the entire period, but in the annual report for the past two years, 19 and 18.2 per cent of the admissions to the delivery floor have been classified as toxic. We maintain a 13 bed ward exclusively for observation and treatment of these patients.

TABLE 2
DISTRIBUTION OF CAUSES OF DEATH

	Period I (1941-1945) Live Births 9164	%	Period II (1946-1951) Live Births 18,600	%
Sepsis, postpartal	5	13.9	0	00.0
Sepsis, postabortal	6	16.6	0	00.0
Sepsis, extragenital	0	00.0	1	3.7
Hemorrhage, all causes*	7	19.4	10	37.0
Toxemia, all types	10	27.8	7	25.9
Embolic phenomenon	1	2.8	0	00.0
Accidents of pregnancy†				
With hemorrhage	2	5.5	1	3.7
With sepsis	2	5.5	2	7.4
Miscellaneous‡	3	8.3	6	22.2
Total	36		27	
Rate per 10,000 Live Births	39		14	

*Ectopic pregnancy, abortion with hemorrhage, postpartum without lacerations, placenta previa and abruptio placenta.

†Laceration of cervix, uterine rupture (traumatic and spontaneous).

‡Miscellaneous—Sickle cell anemia, typhoid fever, burns, myelogenous leukemia, nephrosclerosis, adenocarcinoma of colon with metastasis.

Eleven of the 17 deaths assigned to toxemia of pregnancy were convulsive, the remainder were not and these died from pulmonary edema, cerebral hemorrhage, or pneumonia. All of the nonconvulsive deaths except 1 occurred in the first period before 1944 when part of our treatment consisted of giving up to 3,000 cc. or more of hypertonic glucose a day in a futile attempt to effect hydremia and diuresis. In the second period we have limited fluid intake to approximately urinary volume plus 1,500 cc. and insist on frequent checking of the chest for pulmonary edema. If rales appear, intravenous fluids are stopped or reduced to 50 cc. of 50 per cent glucose in divided doses. Preclamptic and eclamptic patients do not die from the results of oliguria. Hydremia and a good diuresis presage recovery from pure toxemia of pregnancy, but we are convinced that attempts to produce it with indiscriminate administration of fluids will kill the patient with severe toxemia even if the disease does not. Oversedation, especially with barbiturates, predisposes to circulatory failure and pulmonary edema. Better dosage individualization of these drugs has helped improve our results with these patients in recent years. We are preventing recurrent admissions of repeat toxemias to the service by liberal use of postpartum sterilization in multigravida with essential hypertension and recurrent toxemia. Our rate of decrease in mortality from toxemia in the second period was 72 per cent in relation to period I. The striking decrease in rate from the nonconvulsive type of toxemia in the second period leads us to fear that our former methods of oversedation and hydration resulted in more deaths than might have occurred had the disease been allowed to go untreated except for sedation and judicious timing of termination of pregnancy.

EMBOLIC PHENOMENA

This death occurred from amniotic fluid embolism proved by autopsy. This was thought to contribute to at least another death in this series among the postpartum hemorrhage group.

ACCIDENTS OF PREGNANCY

Among the 4 patients dying from rupture of the uterus in period I, 3 were traumatic. All were ruptured before admission to the hospital and all were subjected to hysterectomy. The fourth represented rupture of an old uterine scar before admission to the hospital. The 3 ruptured uteri that occurred in the second period were made up of 1 spontaneous rupture before admission from a shoulder presentation, 1 spontaneous rupture of the lower uterine segment during labor in the patient who had a previous trachelectomy and 1 traumatic rupture of the uterus that occurred during attempted version for transverse lie.

Only 1 death was given consideration as being caused by heart disease. This patient died from pulmonary edema following a secondary section and the death was assigned to toxemia of pregnancy.

HEMORRHAGE AS A CAUSE OF DEATH

Table 3 shows that there were 9 hemorrhagic deaths in 9,164 live births in period I, and 13 deaths from hemorrhage among 18,600 live births in period II, a rate of

0.98 and 0.69 per 1,000 live births in the two periods respectively. This represents an actual 39 per cent rate of decrease in mortality from hemorrhage in the second period.

TABLE 3
HEMORRHAGE AS A CAUSE OF MATERNAL DEATHS

	Period I (1941-1945)	Period II (1946-1951)
Abruptio placenta	2	4
Ruptured uterus	2	2
Postpartal bleeding	3	2
Ectopic pregnancies	2	1
Placenta previa	0	1
Abortion with hemorrhage	0	3
Total Deaths	9	13
Rate per 1000 Live Births	0.98	0.69

The freer use of blood to counteract shock during the second period contrasted sharply with patients that died from shock in period I. The 9 patients dying from hemorrhage in period I received from none to 3,150 cc. of blood. The 13 patients dying from hemorrhage in the second period received from none, in a patient admitted already spontaneously recovered from shock who died from renal sequela, to 8,500 cc. given to a patient with irretrievable placenta, who developed her first hemorrhage after admission to the hospital in 1949. The average volume of blood and plasma given those dying from hemorrhage in period I was 1,520 cc., and in period II, the average amount of blood given per patient lost, was 4,370 cc. Massive and rapid transfusions will not compensate for bleeding that has been allowed to persist too long before definitive measures to stop it are taken, nor will it save patients who sink so deeply in shock that subsequent death ensues from tissue damage following shock. Four such remote causes of death from hemorrhage have occurred since 1947.

We find, therefore, that the sequela of shock producing disease and not the primary shock is our present *bête noir* of hemorrhage. We have had 2 hemorrhagic fatalities from ruptured uterus in each period. The 2 in period I were a spontaneous rupture outside the hospital and a traumatic rupture inside. The 2 fatal ruptures in the second period followed version for a neglected shoulder presentation, and a spontaneous laceration of the previously amputated cervix during labor, both occurring in the hospital.

Of the patients who died from postpartal bleeding, at least 1 was thought to be the result of amniotic fluid embolism but was not proven by autopsy. The 2 ectopic pregnancies in period I were tubal pregnancies, and the one in period II was a full term abdominal pregnancy with a living baby. The loss of only 1 patient in this entire series from bleeding resulting from placenta previa speaks well for our method of management of this disease. Of the 3 patients who were lost from postabortal hemorrhages, 2 were criminal abortions, admitted with rupture of the uterus in 1947, and the third was admitted to the hospital in shock, following attempted curettement in another hospital.

CESAREAN SECTIONS RELATED TO DEATH

We have done 441 cesarean sections in the entire eleven year period, giving a rate of 1.5 per cent. Table 4 shows the prevailing section rate in several hospitals as reported by Kistner[1], in comparison with our own. There are several reasons for our low section incidence. The greatest reason is that most of our patients are admitted in labor as total strangers to us and we have no previous knowledge of their pelvis. A test of labor is almost a routine procedure.

Table 5 shows the distribution of indications for the 441 sections. Cephalopelvic dystocia was our leading indication. Many patients with previous sections are admitted in advanced labor and if they are progressing with favorable signs, we cross-match them and sweat them through. Thus, only 14.7 per cent of our sections were of the repeat type.

Placenta previa cases are sectioned if the condition of the cervix and the degree of previa makes them unfavorable for vaginal delivery by simple membrane puncture or pulling down a foot. Nineteen per cent of our sections were for this cause. It is our policy to deliver patients with premature

TABLE 4
CESAREAN SECTION RATES

New Haven Hospital	5.9%
Margaret Hague	2.6
Chicago Lying-In	5.5
New York Hospital	2.1
Boston City Hospital	4.2
Kansas City	7.1
Johns Hopkins Hospital	5.5
Cleveland Maternity	6.1
Philadelphia Lying-In	5.8
Sloane Hospital	5.8
Average 4.9%	
Cincinnati—Private Hospitals	1.8%
Shreveport Charity Hospital (1941-1951)	1.5
Cincinnati General Hospital (1940-1949)	1.0

Kistner, Robt. W.: Am. J. Obst. & Gynec. 61:109, 1951.

separation of the placenta by the abdominal route if the degree of hemorrhage seems serious or the condition of the cervix is such that early and rapid termination of pregnancy cannot be expected from simple rupture of the membranes.

We have become less rigid in our requirements for justifying sections on the basis of uterine inertia than formerly. We are not inclined to wait hopefully beyond twenty-four hours for progress of labor that does not come from a few hours of sedation or small repeated doses of pitocin stimulation. The patients sectioned for inertia had normal pelves.

Considering the almost universal dogma of "never section a patient for eclamspia," the 11 patients we did section for this disease demands explanation. Operations were undertaken as an expedient method to terminate pregnancy after the eclampsia was controlled, and medical induction had failed, usually in the face of an unripe cervix. Two were sectioned because of rapid fulmination of the disease. By this we mean that within six to twenty-four hours after admission the patient presented at least three of Eden's criteria of "severe eclampsia" in spite of conservative treatment and were not in labor. One was sectioned forty and one fifty-two hours after admission because the situation looked increasingly hopeless under conservative measures. These women were all operated on under local anesthesia. They all survived though they were all of the severest type.

The 49 sections listed under toxemia in table 5 were all done to terminate pregnancy when this was deemed advisable for women with essential hypertension and or preeclampsia in association with an unripe cervix. The 4 cases sectioned for marginal sinus rupture were not diagnosed preoperatively and the diagnosis was made by examination of the placenta post partum. The preoperative diagnosis was placenta previa with "unripe" cervix in all of them. Parenthetically the cervix is usually not "unripe" in the face of placenta previa.

TABLE 5
INDICATIONS FOR CESAREAN SECTION

	NUMBER	PERCENT
Cephalopelvic disproportion	128	29.0
Inertia labor	25	5.6
Placenta previa	85	19.3
Eclampsia	11	2.5
Previous section	65	14.7
Abruptio placenta	29	6.5
Toxemia	49	11.1
Ruptured uterus	6	1.3
Prolapsed cord	6	1.3
Malpresentation	25	5.6
Vaginal tumors	6	1.3
Breast tumor	1	0.2
Tuberculosis, bilateral	1	0.2
Marginal sinus rupture	4	0.9
Total	441	

There were 13 deaths following cesarean section, 6 followed ruptured uteri, 5 of which were ruptured on admission. One was a postmortem section, 2 were for placenta previa, 1 of which died from sepsis and was listed as postpartum sepsis. There was 1 death each, following section for inertia, contracted pelvis, toxemia, and failed version for transverse lie without rupture of the uterus. One fatality followed secondary section from pulmonary edema. She was assigned to toxemia of pregnancy.

Our mortality for cesarean section was 7.47 per cent in period I, and 1.19 per cent in period II. This is not good. However, each patient that died had a serious associated complication. There have been no deaths in this period from elective cesarean

section in uncomplicated patients. At the end of December 1951, we had accomplished 286 consecutive cesarean sections without a death.

PREVENTABILITY
(1947-1951)

It is beyond the limits of this paper to accurately analyze the errors that contributed to all 63 of the deaths covered by this report. All charts previous to 1947 were on microfilm and difficult to read. We have, therefore, confined ourselves to perusing only the intact charts that were available. We had in all 23 such charts for study. They dated from January 1947. Of these 23 deaths, pregnancy was considered a coincidental and relatively noncontributory factor in 5. The remaining deaths were made up of 2 cases of postpartum hemorrhage, 4 cases of abruption of the placenta, 6 eclamptic toxemias, and 1 each of cesarean section, ruptured uterus, abortion, acute pyelonephritis, placenta previa, and abdominal pregnancy.

Detectable errors that contributed to 8 deaths among the 18 patients whom we lost in the past five years included the following: Unwise decision for vaginal delivery in 1 case of abruptio placenta, oversedation and hydration of an eclamptic, too immediate postpartal sterilization in 1 eclamptic, 2 failures to employ prophylactic postpartum sedation in severe pre-eclampsia; failure to establish preoperative diagnosis on a transverse lie with rupture of the uterus, 1 case; failure to establish properative diagnosis of abdominal pregnancy, 1 case; poor judgment in administering blood to a severe preclamptic toxemia, 1 case.

SUMMARY

Sixty-three deaths occurring on the obstetrical service at Shreveport Charity Hospital in the past eleven years have been reviewed. Death rates from all causes have been presented in two comparative periods. Hemorrhage and toxemia of pregnancy have accounted for over half of our deaths in the most recent period. Medical complications of pregnancy have become the third most important contributory factor in our obstetrical deaths.

In the second period of this analysis there has been a rate of decrease of:

64 per cent in over-all mortality,

57 per cent in corrected mortality,

100 per cent in mortality from postabortal sepsis,

34 per cent decrease in mortality from hemorrhage,

89 per cent decrease in mortality from sepsis,

63 per cent decrease in mortality from toxemia, and

67 per cent decrease in mortality from accidents of pregnancy.

Among the cesarean sections there were:

A section rate of 1.11 per cent in period I,

A section rate of 1.87 per cent in period II,

An increased rate of 63.9 per cent,

A mortality of 7.47 per cent in Period I,

A mortality of 1.19 per cent in Period II,

A decrease of 84.07 per cent in mortality in period II.

REFERENCE

1. Kistner, Robert W.: An analysis of ten years of cesarean section at the Cincinnati General Hospital. Am. J. Obst. & Gynec., 61:109, 1951.

AMNIOTIC FLUID EMBOLISM

A REPORT OF THREE CASES*

ISADORE DYER, B. S., M. D.
NEW ORLEANS
J. P. GRIFFON, M. D.
BATON ROUGE
RICHARD G. BURMAN, M. D.
NEW ORLEANS

Embolism is an important cause of death in obstetrics and gynecology. Next to toxemia, hemorrhage, and infection, embolism is the most frequent cause of maternal fatality.[1] Of the several types of emboli found in the maternal circulation, and more particularly, the arteries and arterioles of the lung, amniotic embolism has become sin-

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From the Department of Obstetrics and Gynecology, Tulane University School of Medicine, New Orleans, and the Obstetric Service of Charity Hospital of Louisiana at New Orleans.

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gularly important as a cause of maternal demise during labor or the immediate puerperium.

Amniotic embolism as first described by Steiner and Lushbaugh,[2] in 1941, is the entrance of fetal amniotic fluid and its contents, namely, meconium, squamae, mucin, lanugo hairs, and debris, into the maternal circulation by way of the veins and venules of the myometrium, eventually finding its way into the arteries and arterioles of the lung by way of the right heart.

Prior to 1941, there was no mention made of this entity. However, the original investigators[2] in their initial work in reporting the first eight cases, showed that amniotic fluid embolism does exist and in their opinion is a common cause of maternal death and accounts for some of the heretofore unexplained etiology of fatal obstetrical shock. Since the appearance of this complete investigation numerous pathologists and clinicians have added to the literature and as far as we know there are 28 proven cases reported.[2-12] It is our understanding that Hertig has 4 more cases in press,[13] bringing the total to 32. This would imply that amniotic fluid embolism is less frequent than first postulated. It is our purpose in this article to add 3 more proven cases to the literature.

CLINICAL COURSE—DIAGNOSIS—PATHOLOGY

The outstanding feature of these cases and of all amniotic fluid embolism deaths is overwhelming shock occurring during labor or immediately after delivery. This is evidenced by a sudden drop in blood pressure and a cessation of radial pulse. The patient has usually been in hard or sudden labor and quickly will show signs of pain, restlessness, anxiety, and a feeling of impending disaster. Cyanosis and dyspnea are usually evident and death may follow immediately. A tendency for profuse hemorrhage postpartum has been noted in several cases that have died from amniotic fluid embolism.

The diagnosis of a nonfatal embolism or amniotic fluid is a difficult if not impossible diagnosis to make. This possibility has been reported.[14] Sudden unexplained shock, cyanosis, dyspnea, followed by a hemorrhagic tendency with afibrinogenemia can be explained on the basis of amniotic fluid in the maternal circulation. However, all substantiated cases have been diagnosed at autopsy or by the method of Gross and Benz.[5] This method is of particular use when autopsy has been refused. Blood is drawn from the right heart or vena cava post mortem, and centrifuged. Instead of the buffy layer and clear layer above the cells, there are three layers. The middle layer can be fixed in block and sections will show the presence of amniotic contents.

Generally all cases that have been reported show either gross or microscopic evidence of amniotic emboli in the uterus, ovaries and more particularly the lungs. Mallory[9] in his report of 3 cases made the statement that gross pathological changes are difficult if not impossible to detect. We know that gross pathological evidence may be demonstrated in the lungs. In our second case, diagnosis was made grossly at the autopsy table. The cut surface of the lung showed numerous areas of amniotic and meconium emboli. Droplets of glistening yellow material could be expressed from the arterioles on the cut surface. A smear of this material clearly shows lanugo hair and debris. (Fig. 1).

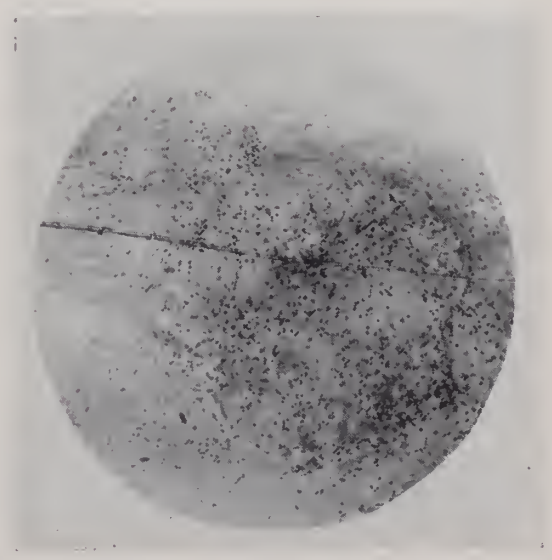

Figure 1.

Microscopically, we find emboli in the veins and venules of the myometrium, ova-

ries, and in the arterioles and arteries of the lungs. If the embolism has not been massive, the emboli can usually be found near the periphery of the lung. These emboli consist of keratinized squamous cells with their compressed wavy cytoplasm and dark squeezed-in nucleus, the "wavy squamae", granular acidophilic substance, mucin and lanugo hairs. There is a marked leucocytic reaction, frequently compressing the amniotic fluid contents. Areas of atelectasis and emphysema are both seen, as is pulmonary edema. Other organs examined show findings of anoxia. Rarely if ever are the contents of amniotic fluid found in other than the organs mentioned above.

ETIOLOGY

The pathogenesis of this phenomenon is not constant, however, several factors must be present. We must have trapped fluid, a mode of entrance into the maternal circulation and pressure. Hertig and O'Leary[15] feel that fluid becomes trapped between the amnion and chorion, or in a marginal clot, or in a decidual sinusoid. This explains the escape of fluid into the maternal circulation. Landing[16] postulated that fluid enters only by sinusoids being opened abnormally as in cesarean section, placenta accreta, rupture of the uterus, and premature marginal separation of the placenta. As previously stated nearly all cases exhibit hard or sudden labor which affords the pressure necessary to force the fluid and its contents into the open sinusoids that lead to the normal maternal circulation.

When the microscopic finding of emboli is not extensive enough to cause death by the usual mechanism of obstruction by emboli, the overwhelming shock in such cases has been attributed to many clinical entities. Of these, rupture of the uterus, hemorrhage, abruptio placenta, acute cardiac failure, eclampsia, and anesthetic accidents have often been thought responsible only to be later proven only partially responsible or completely nonexistent. Steiner and Lushbaugh[2] explained the occurrence of shock in this type of case as an anaphylactoid reaction to the contents of amniotic fluid. They injected amniotic fluid and meconium into experimental animals and obtained a like picture. Filtered amniotic fluid does not cause this severe reaction.

The hemorrhagic tendency of patients that deliver and do not expire immediately is accounted for by the coagulant activity of amniotic fluid.[17] When it enters the maternal circulation amniotic fluid immobilizes the great quantities of fibrinogen and results in an afibrinogenemia. This results in delayed hemorrhage occurring minutes or an hour later if death does not occur from the initial shock.

MATERIALS

It had been our view that death from amniotic fluid embolism is rare. May[18] reviewed the slides from 81 autopsies done on maternal deaths at Charity Hospital of Louisiana at New Orleans, from 1939-1949, and was unable to find a single case. However, since 1950, the residents and pathologists have been urged to look carefully for this entity and this has resulted in the positive diagnosis of 3 cases in 22,393 deliveries with 27 maternal deaths or an incidence of 1 per 7,464 deliveries (Fig. 2).

CHARITY HOSPITAL, NEW ORLEANS.

TOTAL DELIVERIES	MATERNAL DEATHS PER 1000 *	AMNIOTIC FLUID EMBOLUS % OF TOTAL DEATHS
1942-1949 56,945	1.9	0
1950-1951 22,393	1.21	11.1 %

* UNCORRECTED

Figure 2.

This compares with Steiner and Lushbaugh's[2] figures from cases examined from Chicago-Lying-In (i.e. 1 in 8,000).

DETAILED CASE REPORTS

Case No. 1. A 33 year old white female, para IV, gravida V, was admitted to Louisiana State University Obstetric Service at Charity Hospital on September 18, 1950, in mild labor, pains every twenty minutes and the membranes were intact. The pelvis was considered adequate. She was Rh negative. At midnight the bag of waters was ruptured artificially because labor had ceased. She was placed in a delivery room and at 12:45 A. M. delivered a 7 lb. 14 oz. boy from O. P. The amniotic fluid was yellow tinged. The placenta deliv-

ered spontaneously twenty-five minutes later and blood loss was estimated at 600 cc. The patient's blood pressure dropped to 80/60 at 1:25 A. M., and she was given 500 cc. of Rh negative blood. The pressure continued to drop to 50/30. Ergotrate gr. 1/320 was given intravenously. The patient became very wild and it took 3 people to hold her down. A ruptured uterus was suspected and an additional 1000 cc. of Rh negative blood was stripped into the vein. This was followed with 1000 cc. Rh positive blood. The patient was pronounced dead at 2:25 A. M. No clinical diagnosis was established. It was a picture of overwhelming shock and a "wild patient."

At autopsy, #A50-922, performed several hours after death there was no remarkable gross pathology demonstrated. The heart weighed 280 grams and was essentially negative. The right lung weighed 325 gms. and the left 300 gms. and grossly was normal. The uterus was enlarged, with myometrial hypertrophy and the endometrial surface was icteric tinged. The cervix and uterus were both intact.

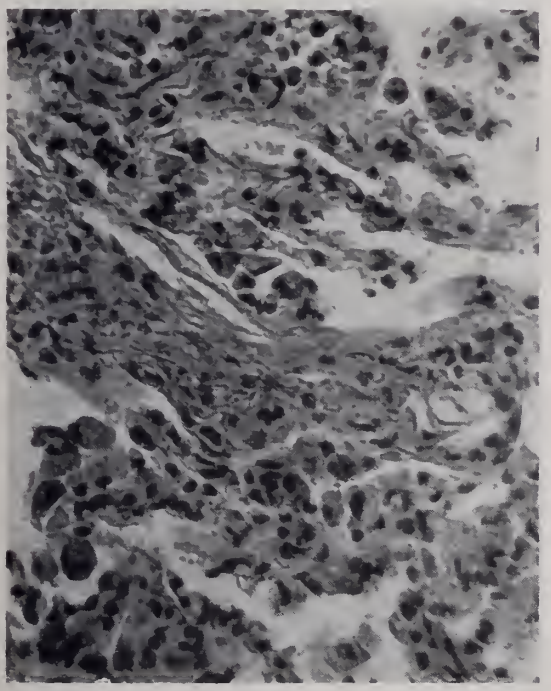

Figure 3.

Microscopically, on Figure 3, the smaller blood vessels show amniotic fluid debris. There were also diffuse patchy areas of atelectasis of both lower lobes. With these findings in the lungs and the clinical course we feel it is safe to assume this patient expired from amniotic fluid embolism.

Case No. 2. A 42 year old colored female, para VI, gravida VII, was admitted to the Tulane University Obstetrical Service at Charity Hospital on November 1, 1950. There was a history of slight bloody discharge one week prior to admission lasting one day. She had had crampy right lower quadrant pain ever since. Fetal movements were still felt. The evening of admission she was awakened by a wetting of her gown and sheets with a mass of blood and small clots. On physical examination her blood pressure was 136/80, pulse 86. The fundus was 33 cms., soft, nontender, vertex was floating and well out of the pelvis. Fetal heart tones were in left lower quadrant 150. There was 1 plus pedal edema. Sterile vaginal revealed no visible bleeding. The bag of waters was intact. Four days after admission she bled again. On sterile vaginal examination a margin of a low implanted placenta was believed felt. Bleeding ceased. On November 10, 1950, she was brought to the delivery unit in hard labor, with the head on the perineum. After being put on the table she suddenly began gasping for breath, face became distorted, bit her tongue and said, "I am going to die". She stopped breathing and became cyanotic. The heart stopped beating. Positive oxygen was given and a postmortem section was done and a living female delivered. This patient was brought to the delivery room at 3:30 P. M., and died at 3:36 P. M. The clinical diagnosis was pulmonary embolism.

At autopsy, #A50-1155, done four hours after death there was definite evidence grossly of yellow, friable meconium-like substance in the pulmonary arteries. This material could be expressed from the cut surface of the lung. The uterus showed marked yellow staining on the fetal side of the placenta, the uterus adjacent to the placenta, and one area of the placental site. No other significant gross abnormalities were noted. Microscopically, (Figure 4), the pulmonary arterioles were diffusely involved with emboli of amniotic fluid contents (i.e. squamous cells, mucin from meconium, bile pigment and lanugo hairs). Similar emboli were seen in the venules of the myometrium. Other

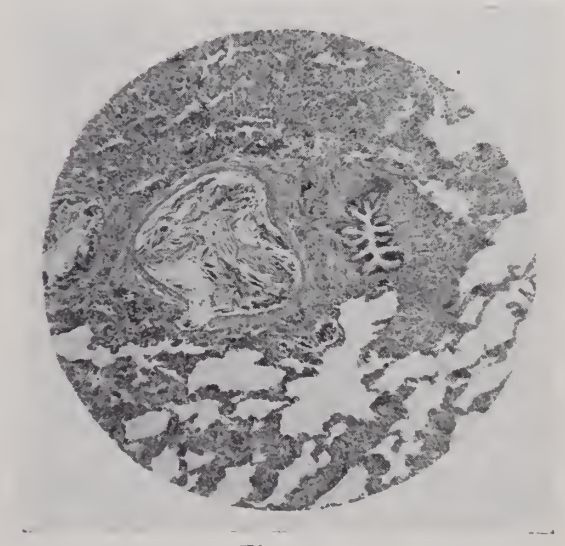

Figure 4.

findings were congenital abnormality of the orifice of the left coronary artery, cavernous hemangiomata of the liver, physiological congestive splenomegaly of pregnancy, acute endometritis, bilateral hydrothorax, and lymphoid hyperplasia of the thyroid.

Case No. 3. A 35 year old colored female, para II, gravida IV, was admitted to the Tulane University Obstetrical Service at Charity Hospital on August 24, 1951. She was admitted with moderate pains every five minutes, and stated that her membranes had not ruptured. Her previous deliveries had been by a midwife seventeen years ago, and she had an abortion one year ago. She was a clinic patient but did not attend the last trimester and stated that she had been unable to walk the last month due to swollen feet. During the second trimester she was given adequate treatment for syphilis. On physical examination blood pressure was 126/80, pedal edema 2 plus, fundus was 35 cm. and vertex presenting. The bag of waters was intact. Labor ceased, and she was sent to prenatal ward after having her membranes stripped and ruptured artificially. Two days later she went into active and progressive labor, when suddenly she cried out, thrashed about, had stertorous breathing and her blood pressure and pulse were unobtainable. Positive pressure oxygen was given, and patient expired within a matter of minutes. Clinical diagnosis of amniotic fluid embolism was made.

At autopsy, #A51-930, done soon after delivery there was no gross finding in the lungs other than atelectasis in both lower lobes. The uterus contained both fetus and placenta. There were several myomata visible. The fetal membranes were ruptured and stripped away from the surface of the uterus. The uterus was stained with meconium in several areas. The placenta was firmly adherent and showed no gross abnormalities. The infant showed no gross deformities.

Microscopically, in Figure 5, the lungs showed scattered areas of atelectasis and moderate areas of emphysema. Many of the large blood vessels contained varying amounts of hyaline, refractile cellular debris which appeared to consist of keratinized squamous epithelium. The smaller arterioles contained granular, amorphous pink staining material and some polymorphonuclear concentration. The venules of the myometrium contained small amounts of keratinized squamous epithelium in which nuclei could be seen. There was great hypertrophy of the individual muscle fibers. Other histological findings were focal necrosis and fatty infiltration of the liver, atherosclerosis and mesenteric adenitis.

TREATMENT

The difficulty in antemortem diagnosis leaves little to offer as treatment. The usual supportive measures may be applied.

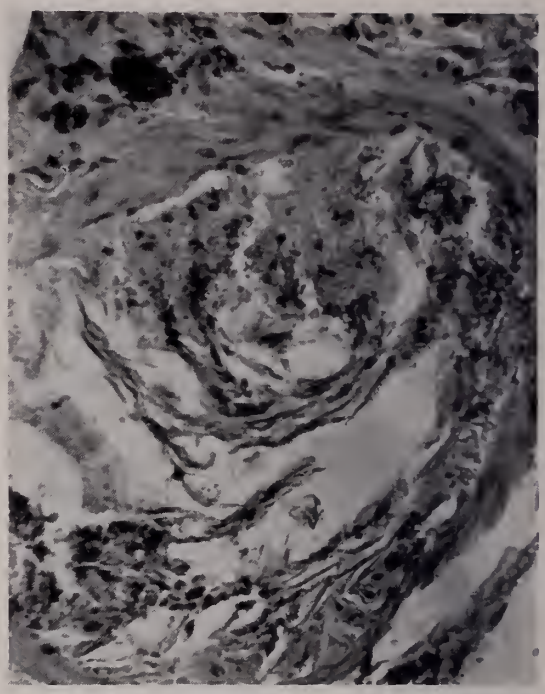

Figure 5.

Positive pressure oxygen was given to all our cases to no avail. Fluids have been given but with the respiratory difficulty and the pulmonary edema present in many cases this does not seem a wise procedure. Intravenous antihistamines should be helpful if the patient presents a picture of nonfatal embolism and anaphylactoid shock. The resultant afibrinogenemia in this type of case and the resultant postpartum hemorrhage can be arrested by the injection of 4 to 6 gms. of fibrinogen.[17] The clot formation may be quickly checked by withdrawing blood and determining the clotting mechanism. This should be followed by replacement up to but not to exceed the estimated blood loss, again being aware of the pulmonary embarrassment. We recommend large doses of papaverine for sedation rather than morphine because of its action on smooth muscle and its antispasmodic effect.

CONCLUSION

The 3 cases presented caused 11.1 per cent of the maternal mortality on the Obstetric Service at Charity Hospital in 1950-1951. It is felt that amniotic fluid embolism is a frequent cause of embolic death in obstetrics. No doubt many in-

stances of fatal amniotic fluid emboli have occurred in the past unrecognized. This can be corrected only by vigilant search of the lungs for gross and microscopic evidence of the above described findings, or if autopsy is refused, examination of the blood from the inferior vena cava or right heart for amniotic fluid contents.

SUMMARY

1. Three proven cases of amniotic fluid embolism are presented and submitted to be added to the literature.

2. We have shown that the diagnosis can be made grossly.

3. Diagnosis depends on the observations made by the obstetrician in attendance and the diligent search for emboli at autopsy by the pathologist.

4. Although the condition can be definitely diagnosed there is no known method of prophylaxis or specific treatment of the acute amniotic fluid embolism.

REFERENCES

1. Collins, C. G., Smith, R. C., Burman, R. G., Griffon, J. P.: Blood and blood vessels in obstetrics and gynecology, In press.

2. Steiner, P. E. and Lushbaugh, C. C.: Maternal pulmonary embolism by amniotic fluid as cause of obstetric shock and unexpected death in obstetrics, J. A. M. A. 117:1245 and 117:1340, 1941.

3. Lushbaugh, C. C., and Steiner, P. E.: Additional observations on maternal pulmonary embolism by amniotic fluid, Am. J. Obst. & Gynec. 43:833, 1942.

4. Hemmings, C. T.: Maternal pulmonary embolism by contents of amniotic fluid, Am. J. Obs. & Gynec. 53:303, 1947.

5. Gross, P. and Benz, E. J.: Pulmonary embolism by amniotic fluid; report of 3 cases with new diagnostic procedure, Surg. Gyn. & Obst. 85:315, 1947.

6. Jennings, E. P. and Stofer, B. E.: Pulmonary emboli composed of contents of amniotic fluid, Arch. Path. 45:616, 1948.

7. Watkins, E. L.: Sudden maternal death from amniotic fluid embolism, Am. J. Obs. & Gynec. 56:944, 1948.

8. Banton, S. M. Jr. and Saunders, J. R.: Pulmonary embolism of amniotic fluid, Am. J. Clin. Path. 21:567, 1951.

9. Mallory *et al*: Maternal pulmonary embolism by amniotic fluid, New England J. Med. 243:583, 1950.

10. Schenken, J. R. *et al*: Maternal pulmonary embolism of amniotic fluid, Am. J. Clin. Path. 20:147, 1950.

11. Wyatt, J. P. and Goldenberg, H.: Amniotic fluid embolism: Report of a fatal case, Arch Path. 45:366, 1948.

12. Haback, W. W.: Pulmonary embolism by amniotic fluid: Review of literature and report of an additional proved case, Southern Surgeon 16:281, 1950.

13. Duncan, R.: Personal conversation, 1952.

14. Selzer, L. M. and Schuman, W.: Nonfatal pulmonary embolism by amniotic fluid with report of a possible case, Am. J. Obst. & Gynec. 54:1038, 1947.

15. Leary, O. C. and Hertig, A. T.: Pathogenesis of amniotic fluid embolism (1) New England J. Med. 243:588, 1950.

16. Landing, M. D.: Pathogenesis of amniotic fluid embolism (11) New England J. Med. 243:590, 1950.

17. Weiner, A. and Reid, D.: Pathogenesis of amniotic fluid embolism, New England J. Med. 243:597, 1950.

18. May, H. W. and Winter, F. D.: Amnnotic fluid embolism, an infrequent cause of maternal death, West. J. Surg. Gyn. & Obs. 92:231, 1951.

THIRD DEGREE PERINEAL LACERATIONS*

RICHARD E. C. MILLER, M. D.
JAMES E. SAFLEY, M. D.
ALEXANDRIA

Since June 23, 1951, we have encountered 17 patients with third degree perineal lacerations, and we feel that our recent experiences with this condition should be brought to the attention of the Section on Obstetrics and Gynecology at this annual meeting of the Louisiana State Medical Society.

DEFINITION

During labor and delivery, injury to some portion of the birth canal is almost inevitable. These injuries may be divided into three categories in direct proportion to their seriousness and are known as first, second, and third degree lacerations.

A first degree laceration of the perineum is one which involves the vaginal mucosa and skin of the fourchette, merely exposing the underlying muscle fibers. A second degree perineal laceration is a deeper tear which includes any portion of the muscles of the pelvic floor down to, but not including, the sphincter ani. A third degree perineal laceration is one which involves the sphincter ani and some portion of the anus and rectum and which, if left unrepaired, will render the patient unable to control the passage of flatus and/or feces. Some prefer to add a fourth category, i. e. the incomplete third degree laceration which involves the sphincter ani but not the rectal wall.

ETIOLOGY

Generally speaking, a third degree laceration of the perineum is the result of inju-

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From the Department of Obstetrics and Gynecology, Tulane University School of Medicine, New Orleans, and The Huey P. Long Charity Hospital, Pineville, Louisiana.

dicious management of disproportion between the fetus and the maternal soft parts. Often, for one reason or another, a patient may deliver unattended, and in so doing, she may needlessly sustain a third degree laceration. The same unfortunate accident may occur when she is attended by untrained personnel, such as midwives, policemen, bus drivers, etc., or by trained personnel using either poor judgment, poor technique, or both. There are several conditions which will render the patient more susceptible to third degree tears; notably these are: prolonged labor, chronic vaginal infections, malpresentation, insufficient episiotomies, infantile vagina, vaginal scarring, precipitous delivery, too rapid breech extractions, oversized babies with shoulder dystocia, monstrosities, and toxemia with generalized edema. The perineum may rarely be perforated by destructive instruments or bony fragments and likewise by unskillful use of obstetrical forceps.

Any single one of the above-mentioned conditions may cause a third degree laceration of the perineum, but a combination of two or more is the rule. In most cases of prolonged labor, whether it be due to bony dystocia, occiput posterior position of the fetus, breech presentation or "piddling" uterine contractions, the vagina and its surrounding structures become edematous and devitalized to some extent, thus rendering the tissues less resilient, and therefore, more easily damaged. Chronic vaginitis due either to trichomonas or monilia organisms without proper treatment tends to secondary infection, thus making the perineal tissues more easily torn. Venereal diseases as a group may cause the same condition.

DIAGNOSIS

Following delivery one should be aware of the possibility of third degree tears and examine each laceration and episiotomy with care. Those patients with old third degree tears will almost invariably give a history of a traumatic delivery. However, a history of repair of a rectovaginal fistula or of a hemorrhoidectomy may precede the onset of incontinence of flatus and feces. Often the poor unfortunate, who probably has been almost ostracized from society, will state that she is continent with formed stools but not with flatus and liquid stools. The patient will be unable to contract the sphincter ani on the examining finger and dimpling of the scar overlying the loose ends of the sphincter may often be noted. Absence of the perineal body may or may not be noted. In any event, a careful history and physical examination will make the diagnosis apparent.

MATERIALS

Since June 23, 1951, we have seen and successfully repaired 17 patients with third degree perineal lacerations. Of the 17 cases, 6 were immediate lacerations and 11 were late lacerations. The 6 immediate lacerations occurred on our obstetrical service at the time of delivery. Of these 6 cases, 3 were incomplete third degree lacerations, which were extensions of midline episiotomies. They were repaired at the time of delivery and healed by primary intention. One of the immediate lacerations, a complete third degree laceration, failed to heal properly, the sphincter ends becoming separated. This condition in this patient has since been successfully repaired. The other 2 complete third degree tears were repaired immediately and healed by primary intention.

The 11 patients with late lacerations presented themselves with their deformities already present. The shortest interval of time between the injury and the repair of the laceration was twelve hours, and the longest interval of time between injury and repair was forty-five years.

TREATMENT

In this series, patients who sustained third degree lacerations at the time of delivery were repaired immediately. Those patients who presented themselves with an old third degree laceration were prepared preoperatively by sterilizing the intestinal tract with sulfathaladine, 2 grams every six hours for three days; or stroptomycin, 0.5 gram orally every six hours for three days; or terramycin, 500 milligrams every six hours for two days. At the present, we

favor terramycin because of the time element involved. In addition, these patients were given Vitamin K, 2.5 milligrams, intramuscularly, twice a day during the time the intestinal tract was being sterilized. Two days prior to surgery they were placed on a low residue diet. The night before surgery they were given douches of 1:10,000 potassium permanganate and a cleansing soapsuds enema. The morning of surgery the douches were repeated and saline enemas given until the return solution was clear. One patient, who was first seen twelve hours after her injury, was immediately carried to the operating room where the wound was irrigated with 2000 cc. of normal saline. Careful exploration was done and the laceration repaired.

It is not the purpose of this paper to recommend any certain type of technique in doing the actual repair. We leave that to the discretion of the individual operator. We wish, however, to point out that of prime importance in the repair of third degree perineal lacerations, is the ample mobilization of affected tissues, hemostasis, and correct approximation of the tissues involved. In mobilization and approximation one should remember that there are three muscles associated with proper function of the anus, namely, the internal sphincter, the external sphincter, and the levator ani. The internal sphincter is really a thickening of the circular fibers of the rectum, situated around the anal canal forming a complete muscular ring 2 millimeters to 3 millimeters thick, which is composed of smooth muscle. It is separated from the external sphincter by a thin layer of fascia. The external sphincter is made up of bundles of voluntary muscle fibers which interdigitate before and behind the rectum. It is divided into three parts: a deep, a superficial, and a subcutaneous part. The deep portion forms a heavy ring above the superficial part and is distinctly separated from the puborectal portion of the levator ani by a definite layer of fascia. The levator ani is also divided into three parts: the iliococcygeus, the pubococcygeus, and the puborectalis portions. It is the puborectalis portion that is of most concern in the repair of a third degree perineal laceration, for fibers from this portion may be traced to the superficial portion of the external sphincter. If one will bear in mind this brief resume of the anatomy involved and mobilize and approximate all layers of muscle and fascia mentioned, he will be rewarded with the desired result—a patient who is continent.

It seems that the type of suture material used is of little importance for we have used chromic and cotton with equally good end results. Triple O, double O chromic and quilting cotton in the fascial and muscle planes, and triple O chromic in the skin and mucosa have all been used with satisfactory results.

Postoperatively, the same drugs were used to sterilize the intestinal tract; Vitamin K and the low residue diet were continued. No perineal pads were applied to the wounds. After each voiding, the perineum was cleansed by placing the patient on a bedpan and pouring a weak phenol solution over the perineum. Daily thermolite treatments were not used on any of our cases. All of the patients in this series were ambulated from the first postoperative day. When a patient complained of gas pains, a small, well-lubricated rectal tube was inserted for thirty minutes of every two hours, care being taken to direct the tip of the rectal tube posteriorly. On the fifth postoperative day the patients were placed on regular diet and all medication stopped. Two ounces of mineral oil were given by mouth and the following morning an oil and glycerine enema was given. This usually resulted in a gratifying evacuation of the rectum with the slightest possible trauma. Thereafter, 1 ounce of mineral oil was given nightly for a week or ten days to insure daily bowel movements.

DISCUSSION

It is generally stated that there are three types of failures—those which result from gross infection, those which have a resulting rectovaginal fistula, and those which result from improper approximation of the sphincter ani or from a postoperative sepa-

ration of the fibers of the sphincter ani. We have encountered only one failure and that failure resulted when the repair was attempted by a junior resident. This occurred at the time of a delivery.

We believe that the failure resulting from gross infection, which will manifest itself by a complete breakdown of the repair, may be minimized by proper preoperative and postoperative care. The failures which result in rectovaginal fistulae may first be prevented by proper mobilization, hemostasis and correct approximation of all layers of tissue. They should manifest themselves by the appearance of feces into the vagina with the first or second bowel movement. Should this occur, the patient should be placed on the same regime, that is, antibiotics for four or five days and given a low residue diet. If the fistula fails to heal spontaneously, repair should not be attempted for eight to ten weeks. The third type of failure—separation of the torn ends of the sphincter, manifests itself by incontinence. Repair could again be attempted in one month, provided there is no evidence of infection, because this type of failure is not usually due to infection but to poor operative technique.

COMMENTS

We have purposely failed to quote percentages and statistics. We have also omitted detailed case histories because we feel that in the time allotted we could better point out more significant factors in the management of third degree lacerations.

CONCLUSIONS

1. The observation of 17 cases of third degree perineal lacerations during a ten month period in a general hospital of 275 beds makes one think third degree perineal lacerations are more common than one would ordinarily suspect.

2. Diagnosis of third degree perineal laceration can more easily be made if one bears in mind the possibility of this condition, especially when questioning the patient regarding incontinence of flatus and/or loose stools.

3. The time element between the occurrence and repair of a third degree perineal laceration appears to be of little significance.

4. With the proper use of antibiotics, both preoperatively and postoperatively, plus good surgical technique and an understanding of the anatomy involved, third degree perineal lacerations can be easily and satisfactorily repaired.

5. When delivering patients with malpresentations and in using obstetrical forceps one should always bear in mind Blundell's famous dictum: "Art, not strength," for it is when we become lax in the art of delivery and use brute force that we are most likely to unwillfully produce a third degree perineal laceration.

DISCUSSION

Dr. T. A. Glass (Shreveport): I would certainly like to commend the authors on their selection of patients. I think we all agree that this is quite a large collection of cases for such a short period of time. We do not see anywhere near this wealth of material in our private work, and we do not see near as many of this type of case now, as we have in past years. I think the authors are to be especially commended on their results, in repairing 16 out of 17 third degree perineal lacerations successfully at first operations. This compares favorably with the several groups of similar cases that have been reported in the recent literature. I feel that the one most important thought for us to keep in mind to prevent occurrences of this condition is in the most careful use of forceps on difficult cases. Deep episiotomies must be done in these cases. Also, when doing a midline episiotomy, particularly when a large baby is present, the operator must be very careful in delivering the head and shoulders so as to avoid a third degree laceration. When either of the above conditions are present, we should be very meticulous in the ensuing inspection and repair of episiotomy so as not to overlook a possible tear in the internal sphincter.

The two general types of operations that are used in repair of complete perineal lacerations today are (1) the layer method with or without rectal sutures, and (2) the flap method as first described by Warren. Of course, there have been many minor modifications of both these methods, but the only really important advance was advocated and first practiced by Norman Miller at Michigan. Since 1931, he has advocated cutting the rectal sphincter lateroposteriorly to permit the free escape of gas and to prevent tension on the sutures that join the repaired ends of the sphincter. It is my humble opinion that this is a most important step in the operation and that it should always be done to help insure the success of the

repair. It is done at the completion of the operation with a stab wound through the skin and rectal sphincter down to the mucosa using a finger in the rectum, as a guide so that you can feel the relaxation and know that you have accomplished your purpose. This step is much more important when repairing old third degree lacerations because those are the ones in which there is most tension on the suture lines joining the ends of the sphincter.

I would like also to mention a little step in repairing the old cut ends of the rectal sphincter. That is to dissect out the ends clearly and put the sutures in the fascial plane about the muscle rather than in the muscle itself, as they will stand the tension much better and will be less likely to tear out when the ends of the sphincter are approximated.

We are very fortunate nowadays in having the various antibiotics at our disposal to use in preoperative preparation and postoperative care of patients on whom we operate for repair of complete perineal lacerations. I think that preoperative and postoperative care of these cases is just as important as the actual technique used in the operation.

I am in agreement with the writers who believe that the particular type of suture material used does not make much difference, but I do think that whatever suture is used should be of a small caliber and of such material that will give the least amount of tissue reaction. This is particularly important because we are working in an area where scarring is usually quite marked.

I would like to re-emphasize the remarks made by the authors that the most important steps in the actual operative repair of complete perineal lacerations are (1) complete and ample mobilization of the affected tissues, (2) complete and absolute hemostasis and (3) correct approximation of the tissues involved. I am sure that if one will follow the prescribed preoperative regime set up by the authors and keep the above remarks in mind while doing the actual operation and then follow up with the postoperative care described in their paper, that they can be just as successful with the repair of complete perineal lacerations as the authors have been. I would also like to mention that the delivery following this type of repair should be by cesarean section.

TOTAL HYSTERECTOMY — VAGINAL OR ABDOMINAL

CURTIS H. TYRONE, M. D.
NEW ORLEANS

Until relatively recent years, when a hysterectomy was deemed necessary, it was customary to remove only the corpus uteri and leave the cervix *in situ*. Gradually, as technical proficiency and experience were acquired, more and more gynecologists came to believe that in most cases it is preferable to remove the uterus together with its cervix. Such a total operation has several advantages over subtotal hysterectomy. First, it eliminates the possibility of development of cervical or endocervical neoplasms. This is an important consideration in older women in whom the majority of hysterectomies is done, since the incidence of carcinoma is proportionately greater in them. For example, the incidence of carcinoma in the retained cervical stump has been estimated to be around 2 per cent.[1] Secondly, intractable discharges and vaginal bleeding, pelvic pain, infection and polyps, frequent complications of the incomplete operation, obviously cannot develop after total hysterectomy. Moreover, since there is little difference in the time required for performance of the total and subtotal operations,[2] the operative shock is no greater for the abdominal operation. Finally, the operative mortality for the total operation in experienced hands is negligible. Danforth[1] reported 1 death in 150 total abdominal operations or a mortality rate of 0.66 per cent as compared with a mortality rate of 0.8 per cent in 744 subtotal hysterectomies. In 1,734 total abdominal operations performed by me during the twenty-one year period ending December 31, 1951, the operative mortality rate was 0.11 per cent. It is probably true that for the inexperienced

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From the Department of Obstetrics and Gynecology, Ochsner Clinic and the Department of Gynecology, Tulane University of Louisiana School of Medicine, New Orleans.

operator the subtotal operation entails a lower risk, since it is easier to perform, although in one report by a meticulous occasional operator[3] there were no operative deaths in 65 total and 39 subtotal abdominal hysterectomies for benign disease and the morbidity rates for the two groups were the same. There would therefore seem to be little if any indication for performance of a subtotal hysterectomy.

INDICATIONS AND CONTRAINDICATIONS

Although there is rather general agreement among authoritative gynecologists that when the uterus must be removed total excision is the treatment of choice, there is still considerable confusion in the minds of many regarding the best approach to the uterus. Since the indications for the abdominal and vaginal approaches are quite definite, there is actually no reason for difficulty in deciding which approach to employ in a specific case. A thorough history and physical examination should indicate the correct decision. This should depend upon the evaluation of the pathologic alterations found, whether or not the patient has had previous pelvic operations, and the presence or absence of obesity. Never should the decision be based upon the proficiency of the operator or his own personal whims. Every surgeon who does hysterectomies should be equally adept at removing the uterus abdominally as vaginally, so that his decision is not influenced by lack of skill for one or the other approach.

The primary indications for vaginal hysterectomy are uterine prolapse, particularly second and third degree ones, which are almost always associated with cystoceles and rectoceles, and extremely obese patients with a freely movable uterus and some degree of prolapse. It has been my experience that the best method of treatment for complete procidentia is vaginal extirpation of the uterus with repair of the cystocele and perineorraphy. I believe, as Dr. C. J. Miller taught, that vaginal hysterectomy is containdicated in any patient whose pelvic structures are fixed or in whom the cervix cannot be drawn down to the vaginal outlet.

Shortening of the vagina and prolapse of the anterior vaginal wall have been considered by some as undesirable results of the vaginal operation but postoperative examination of 430 women in whom vaginal hysterectomies were performed by me has revealed neither of these conditions. Nor does Danforth[1] consider shortening of the vagina a valid objection to vaginal hysterectomy. Urinary complications, however, do sometimes occur. There is no doubt that in indicated cases vaginal hysterectomy produces less postoperative shock and distention than abdominal excision and excellent end results are obtained.[4]

The abdominal approach is indicated in most cases when the uterus must be removed. It should be employed in women with malignant lesions of the pelvic organs, large uterine fibroids, a history of previous laparotomies, such as suspension, bilateral salpingectomy, oophorectomy or both, or previous cesarean section, endometriosis and previous pelvic infection. In women with extensive adhesions from previous operations, it is much easier technically to remove the uterus through an abdominal approach. One advantage of the abdominal approach is that injuries to the bladder and ureters, which are important in younger women, are less likely to result from this route. Another advantage of the abdominal approach is the fact that diseased appendices may be removed at the same time, thus preventing a second operation. Appendectomies at a later date have been necessary in several of our patients who had vaginal hysterectomies. It is probably true that more numerous and varied complications follow abdominal than vaginal hysterectomy but again it is difficult to evaluate this, since the conditions for which the abdominal approach is required are usually more serious than those treated by the vaginal route. This further emphasizes the fact that there should be no competition between the two approaches.

COMPLICATIONS

Leventhal and Lazarus,[5] who made a critical comparison of 300 consecutive cases of total abdominal hysterectomy with 300

consecutive cases of vaginal hysterectomy performed at the Michael Reese Hospital, concluded that the two approaches should not be competitive, since each has its own indications and contraindications. They found that the morbidity was greater for the vaginal than the abdominal route but more serious postoperative complications followed the abdominal. The period of hospitalization was approximately the same for both groups.

The possibility of the development of hernias following abdominal hysterectomy has been voiced by some advocates of the vaginal route. However, it has been my experience that if the same precautions are taken for proper closure of the abdomen as for excising the uterus, the incidence of hernias will be negligible. Moreover, hernias of the cul-de-sac definitely occur more often after vaginal than after abdominal hysterectomy.

In the performance of hysterectomy by either route, consideration must be given to the adnexa. As most gynecologists know, it is extremely difficult to determine the condition of the adnexa preoperatively. The advent of antibiotics and chemotherapy has greatly reduced the incidence of infections but we still see endometriosis and ovarian lesions all too often. For this reason the abdominal route is probably a better choice than the vaginal route, all other conditions being equal, as it offers better exposure for handling these diseases. Obviously, in all patients with healthy ovaries requiring hysterectomy for benign conditions, the adnexa should be left intact, especially in women who have not yet undergone the menopause regardless of age.

Regardless of the type of hysterectomy planned, it is important to explain to the patient preoperatively exactly what removal of the uterus will mean. She should be thoroughly cognizant of the fact that after operation she will be relieved of reproductive and menstrual functions. It has been my experience that most women whose families are complete are grateful to be rid of an abnormal function sooner than is normal. Since many women have misconceptions about the physiologic results of hysterectomy, it is equally important to reassure them that excision of the uterus will not produce abnormal hormonal reactions and will not affect sexual intercourse if this was normal preoperatively.

EXTENSION OF INDICATIONS FOR HYSTERECTOMY

Pefore closing, it seems advisable to urge extension of the indications for hysterectomy. It is my own personal contention that the uterus should be excised in every woman past the reproductive years who has uterine pathologic alerations, such as extensive cervicitis with or without lacerations, endometriosis, pelvic infections, fibroids or alterations in the menstrual flow as hypermenorrhea or polymenorrhea. Our educated and well-informed modern women rightly insist on relief from the annoying symptoms caused by such pathologic alterations as well as protection against the possibility of the later development of cancer. Fortunately, the once popular treatment of menopausal or postmenopausal bleeding by roentgen ray or radium is rapidly losing favor. Moreover, attempts to correct pathologic alterations in the uterus by such supposedly conservative procedures as cervical amputation (surgically or by conization), suspension of the uterus, extirpation of the adnexa, ligation of the tubes or defundectomy, should be condemned without reservation. The sole function of the uterus is reproduction and when this organ becomes diseased after it has served its purpose, the procedure of choice is excision of the uterus. Only by his means can we expect to have contented patients, because they will be relieved not only of annoying symptoms but also of the anxiety associated with the thought that there is the possibility of development of malignancy in the future.

CONCLUSION

In conclusion, it may be repeated that whenever it becomes necessary to remove the uterus, total hysterectomy, either abdominally or vaginally, depending upon the findings in the individual case, is the treatment of choice. There should be no competition in the selection of the two routes, for each has its own specific indications

and if the surgeon is adept in performance of either technic, his decision can and should be based on evaluation of the condition found in each individual case.

REFERENCES

1. Danforth, W. C.: Total hysterectomy, abdominal and vaginal. Am. J. Obst. & Gynec. 42:587 (Oct.) 1941.
2. Tyrone, C. H. and Weed J. C.: Hysterectomy; a personal experience with two thousand consecutive cases in private practice, Ann. Surg. 133:819 (June) 1951.
3. Gaston, E. A.: Total abdominal hysterectomy and the "occasional operator," Surg., Gynec. & Obst. 80:539 (May) 1945.
4. Burke, F. J.: Vaginal hysterectory, J. Obst. & Gynec. Brit. Emp. 57:912 (Dec.) 1950.
5. Leventhal, M. L. and Lazarus, M. L.: Total abdominal and vaginal hysterectomy; a comparison. Am. J. Obst. & Gynec. 61:289 (Feb) 1951.

IMPORTANCE OF PROTEIN IN MATERNAL DIETS: AND A CHARITY HOSPITAL SURVEY

JAMES HENRY FERGUSON, M. D.
NEW ORLEANS

MARY LOU HINSON, M. D.
SAN FRANCISCO, CALIF.

The authors have reported that many women attending antepartum clinics at the Charity Hospital at New Orleans, have diets that are deplorably poor.[1] The present report is further documentation of that fact with emphasis on the protein poverty of the diets. The importance of protein in the dietary of pregnant women will be discussed.

In the initial investigation the diets of 100 women were rated as excellent, good, fair, poor, and very poor. None was found to be excellent and only one was good. Eighty-eight per cent of the diets of negro women and 74 per cent of the diets of white women were poor or very poor. No woman's diet met the allowances for pregnancy recommended by the Food and Nutrition Board of the National Research Council.

There has accumulated a large literature indicating that a nutritious diet is important for fetal and maternal health. Key references are in the publications of G. A. Goldsmith, C. Lund, B. S. Burke and H. C. Stuart. Protein is a basic constituent of the diet about which a great deal of interest has recently centered, paralleling the recognition of the importance of protein in surgery and medicine.

On entering pregnancy the protein requirements of women are increased. The need for protein to construct the larger uterus, the placenta, the infant, breast tissue, increased plasma and erythrocyte masses is apparent. Nitrogen balance studies show that in pregnancy large amounts of protein must be stored in preparation for parturition and lactation. Increased birth length and weight of infants have been found when mothers have larger amounts of protein in the diet; the same favored women had babies with superior physical ratings.[2] Osseous development in the newborn was found to be retarded more frequently in women whose diet was deficient in protein. The same observation was made of the calcification of teeth before eruption.[3] A number of studies attest that a good protein intake helps the mother to prepare for and maintain lactation. Patients with high protein levels seem to have fewer abortions.[4]

TOXEMIA

It has long been suspected that a connection exists between diet and pregnancy toxemia. This complication tends to occur more frequently in lower income groups and poor diet is the most obvious common characteristic of these groups. Burke[2] and others have found a relationship between preeclampsia and general dietary rating. Tompkins reported a clinical experiment which he believed proved diet protects a woman against toxemia.[5] Blair, Luikart, P. Williams and others perceived a significant concurrence of protein deficiency and toxemia. There is not enough evidence to conclude that a low protein diet is an immediate cause of preeclampsia but the bulk of the facts favors the proposition that this specific deficiency is a predisposing factor. As toxemia is the leading cause of maternal death in the South the attention that

From the Department of Obstetrics and Gynecology, Tulane University of Louisiana, and the Charity Hospital of Louisiana at New Orleans.

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should be paid to protein is evident. At the Charity Hospital at New Orleans, there is an extraordinary incidence of toxemia.

Strauss[6] observed that toxemic women fed a high protein diet benefited more from hospitalization than women on a low protein diet. In 1400 women, Holmes[7] demonstrated that the women on a high protein diet (110-120 grams) have about one half as much likelihood of developing toxemia as women on a diet of 60 to 70 grams of protein. At the Charity Hospital, in 1945, it was found that preeclampsia was more frequent among the patients most deficient in protein.[8]

In preeclampsia the plasma protein levels are lower than the already depressed standards found in normal pregnancy. With the consequent lowering of the colloid osmotic pressure the formation of edema is favored. This collection of extracellular fluid can be expected to contribute to the disturbances of kidney function, electrolytes and blood pressure which characterize preeclampsia.

In normal pregnancy there is a tendency to retention of sodium and water. This is exaggerated in preeclampsia and is one of the cardinal physiologic alterations of the disease. Water excretion is suppressed in protein-depleted dogs.[9] The acid-ash property of proteins could be expected to help reverse the preeclamptic's tendency to sodium retention.

ANEMIA

Anemia is a frequent handicap to maternal health in this area. Lund showed that one half of 4015 pregnant women from Charity Hospital clinics were anemic.[10] In a study of women in labor at the same hospital, Woodworth reports a preponderance of subnormal hemoglobin values; 31 per cent had hemoglobin readings of less than 9.5 grams/100 ml. and 63 per cent had a mean corpuscular hemoglobin concentration below 30.[11] Ferguson found 53 per cent of 1669 pregnant women in rural Mississippi had hemoglobin levels below 11 grams/100 ml.[12] Anemia is expected to be more frequent where low nutritional standards prevail. There is a large body of data supporting the view that a good protein diet aids in avoiding anemia. A most manifest point is that hemoglobin is a protein.

In a group of women studied at the Charity Hospital the mean hemoglobin values of those with deficient protein diets was distinctly lower than those with excellent protein intakes.[8] The anemic women studied by Ferguson also had protein-poor diets.[13]

Bibb believed that his studies showed a relationship between low protein intake and poor hemoglobin formation in pregnancy.[14] Work with experimental animals has proved that both quantity and quality of protein are of paramount importance in hemopoiesis.[15] The delay in the maturation of reticulycytes in the presence of hypoproteinemia[16] suggests an explanation for the frequent superimposition of anemia and preeclampsia.

CHARITY HOSPITAL SURVEY

The diets of 209 women attending antepartum clinics of the Tulane Service at the Charity Hospital, New Orleans, were analyzed for their protein content. To match the race incidence of births, 85 per cent of the patients were colored women. The survey was a 24 hour diet history and the patients were chosen at random from the clinic. The technique, advantages, and disadvantages of this type of survey have been described elsewhere.[1, 13, 17]

Figure 1 illustrates the protein deficiency

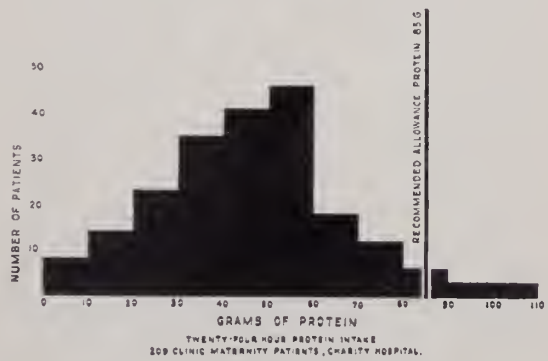

Figure 1.

found in the diets. The only comparably low protein intake in pregnancy ever reported in the United States that the authors have been able to find is a group of low income women in rural Mississippi reported by Ferguson and Keaton[13] Only nine (4 per cent) of the 209 women con-

sumed the recommended allowance of 85 grams. Thirty women (22 per cent) had consumed less than 30 grams and eighty (38 per cent) less than 40 grams. The median and arithmetrical mean protein intakes were both 45 grams.

The standard of 85 grams of protein daily was proposed by the Food and Nutrition Board of the National Research Council as the optimal intake in pregnancy. It is widely used as a level that provides a margin of safety. It has been considered too high by some and others consider it too low. Many of the women studied in the Charity Hospital clinics had protein intakes that were shockingly low by anyone's standard.

The richest sources of protein for these women were meat, milk and eggs. Of 100 women in a random twenty-four hour period 31 per cent had eaten no meat, 45 per cent no milk and 66 per cent no egg; only discouraging figures for protein consumption could be expected. To provide a comfortable margin of protein each day the gravid women could consume one good serving of lean meat (about one fourth pound), a quart of milk, an egg, a potato and three to four servings of bread and cereal foods.

COMPARISONS AND COMMENT

Of 216 women studied at the Boston Lying-in Hospital only 38 per cent (ours, 72 per cent) had diets of under 55 grams of protein and only 14 per cent (ours, 50 per cent) consumed less than 45 grams.[18]

A group of pregnant women in New York had a mean protein intake of 67 grams (ours, 45 grams.)[19] Twenty-two per cent (ours, 4 per cent) had the prescribed 85 grams or more of protein in the daily diet. Seventeen per cent (ours, 50 per cent) of the women had diets of under 45 grams of protein. Meat was eaten at least once a day by 88 per cent of the New York women.

The protein intake of the Charity Hospital women does not appear to be improving. In 1945 it was reported[8] that 24 per cent of the negro patients and 14 per cent of the white patients were receiving less than 42.5 grams of protein daily (today, combined races, 43 per cent).

An important reason for the low protein intake of the women in the present study is the high cost of animal proteins. Equally significant factors are the habit of eating a high carbohydrate-fat diet and lack of information on food values, including a knowledge of the marketing and preparation of inexpensive meats. The diets of these women can be improved by instruction, at the same time infusing them with increased motivation. The magnitude of the responsibility of the hospital and its staff that provide delivery facilities for more mothers than any other hospital in the United States is unmistakable. As these women are often the homemakers the nutrition of the entire family will benefit as their diets improve. A point not to be overlooked is that this dietary protein record is not simply a record of the protein eaten during a particular pregnancy but represents the more far-reaching fact that this is the amount of protein eaten almost daily for a lifetime.

The old thought that patients with renal disease should not eat meat is not tenable here. Of the same vintage are the cautions against excessive meat eating in pregnancy. The pregnant woman with albuminuria should have her lost protein replaced. The often expressed fear that more protein is going to damage or overwork malfunctioning kidneys in the woman with pregnancy toxemia has no substance.

SUMMARY

The importance of an adequate amount of protein in the diet of pregnant women is discussed. The relation of protein to pregnancy toxemia and anemia is emphasized. A survey of the diet habits of women attending antepartum clinics at the Charity Hospital discloses that these women have a woefully inferior consumption of protein. Fifty per cent of the women receive about one half of the recommended allowance of protein.

REFERENCES

1. Hinson, M. L. and Ferguson, J. H.: Food habits of pregnant women in Charity Hospital Clinics, Bull. Tulane U. of La. Med. Fac., 10:38 (May) 1951.

2. Burke, B. S. *et al.*: Nutrition studies during pregnancy, Am. J. Obst. & Gynec., 46:38, 1943.
3. Stuart, H. C.: Findings on Examination of Newborn Infants, etc., Federation Proc., 4:271, 1945.
4. Dieckmann, W. J. *et al.*: Observations on protein intake and the health of the mother and baby, J. Am. Dietetic A., 27:1046, (Dec.) 1951.
5. Tompkins, W. T. and Wiehl, D. G.: Nutritional deficiencies as a causal factor in toxemia and premature labor, Am. J. Obstet. & Gynec. 62:898, (Oct.) 1951.
6. Strauss, M. B.: Observations on the etiology of the toxemias of pregnancy, Am. J. Med. Sc., 190:811, 1935.
7. Holmes, O. M.: Protein diet in pregnancy, West. J. Surg., 49:56, 1941.
8. Arnell, R. E, Goldman, D. W. and Bertucci, F. J.: Protein deficiencies in pregnancy, J. A M. A., 127 1101, 1945.
9. Schweppe, J. S. and Freeman, S: Effect of protein depletion on response to water, sodium, chloride and pituitrin, Proc. Soc. Biol. & Med., 77:57, (May) 1951.
10. Lund, C. J.: Studies on the iron deficiency anemia of pregnancy, Am. J. Obstet. & Gynec. 62:947, (Nov.) 1951.
11. Woodworth, F. S.: Unpublished data.
12. Ferguson, J. H.: Pregnancy hemoglobin levels in the rural South, Am. J. Obstet. & Gynec. 60:111, 1950.
13. Ferguson, J. H. and Keaton, A. G.: Studies of the diets of pregnant women in Mississippi. II Diet patterns. New Orleans M. & Surg. J., 103:81, 1950.
14. Bibb, J. D.: Protein and hemoglobin in normal and toxemic pregnancies, Am. J. Obstet. & Gynec., 42:103, 1941.
15. Buechler, E. and Guggenheim, K.: Effect of quantitative and qualitative protein deficiency on blood regeneration. II Hemoglobin, Blood, 4:964, 1949.
16. Nizet, A. and Robechit-Robbins, F. S.: Reticulocyte ripening in experimental anemia and hypoproteinemia., Blood, 5:648, 1950.
17. Eads, M. G. and Meridith, A. P.: Nutrition studies. II Methods of collecting dietary data, Pub. Health Rep., 63:777, 1948.
18. Burke, B. S.: Nutritional needs in pregnancy in relation to nutritional intakes as shown by dietary histories, Obstet. & Gynec. Survey, 3:716, 1948.
19. Trulson, M. *et al.*: New York State nutrition survey II A one-day study of food intake of adults, J. Am. Dietetic A., 25:669, 1949.

EARLY ABDOMINAL PREGNANCY

PRESENTATION OF SIX CASES*

THOMAS G. EASTERLING, M. D.
ALEXANDRIA

Of the many problems in the field of obstetrics, few are as intriguing as abdominal pregnancy. This entity, even though it was the first form of extra-uterine gestation to be recognized, remains sufficiently rare to arouse considerable interest each time its diagnosis is made.

In this presentation, I propose to discuss abdominal pregnancy with reference to types, diagnosis, management, fate of babies, and finally, to present abstracts of 6 cases of early abdominal pregnancy from the records at the University of Arkansas School of Medicine.

There are two types of abdominal pregnancy: primary and secondary. Studdiford[1] cites three criteria to be fulfilled before a diagnosis of primary abdominal pregnancy can be established: (1) Both tubes and ovaries must be normal with no evidence of recent or remote injury. (2) There must be no evidence of uteroperitoneal fistula. (3) The pregnancy must be related exclusively to the peritoneal surface and young enough to eliminate the possibility of secondary implantation following a primary nidation in the tubes. He reported a case, in 1942, that fulfilled these prerequisites.

It has been suggested that endometriosis may be a predisposing factor in primary abdominal pregnancies. Secondary abdominal pregnancy is the type which has been secondarily implanted on the peritoneal surface after primary nidation elsewhere with subsequent rupture or expulsion and these cases far outnumber those of the primary type. The incidence of advanced abdominal pregnancies is a variable figure depending largely on the caliber of patient care and on the economical and educational level of patients. Physicians who take careful prenatal histories, and insist on frequent thorough prenatal examinations, and educate their patients on the course of normal pregnancy are doing much to prevent the catastrophies of advanced abdominal pregnancies. In order to prevent the frequently catastrophic end results of late abdominal pregnancies, it is extremely important that the ectopic pregnancy be recognized early in its course and terminated by prompt proper surgery. A review of numerous case reports of late abdominal pregnancies reveals almost without exception that proper attention to signs and symptoms early in the course of gestation would have resulted in the diagnosis of ectopic pregnancy.

The diagnosis of abdominal pregnancy is not always an easy one. A thorough history is probably the most important single

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From the Department of Obstetrics & Gynecology, University of Arkansas School of Medicine, Little Rock, Arkansas.

aid in making this diagnosis. Although authorities disagree on incidence of previous pelvic infection, sterility, abdominal surgery, pelvic tumors, and abortions with regard to abdominal pregnancy, it is generally accepted that these entities predispose to extra-uterine gestation. The majority of patients reported were between 25 and 35 years of age. A review of the present illness may bring out numerous symptoms such as abdominal pain and tenderness, irregular vaginal bleeding, loss of weight, severe indigestion, constipation, severe dysparunia, nausea and vomiting, and fainting. The fact that abdominal pregnancies are almost always secondary to tubal rupture or abortion should make any physician view with suspicion any pregnancy with a suggestive history. Ware,[2] in a recent article, stated that abdominal pregnancy should be thought of and ruled out any time a patient gives history of (1) persistent pelvic or abdominal pain after the second or third month of pregnancy; (2) severe indigestion, constipation, loss of weight; (3) fetal movements persistently high or very low; and (4) irregular vaginal bleeding. He goes on to say that physical findings usually include abdominal tenderness, fetus in abnormal position, fetal heart tone usually louder than average, superficial small parts, long thick closed cervix corresponding in size to gestation rather than to size of uterus which is usually about the size of a three months' gestation, no contractile wall surrounding the fetus, and cervix in abnormal position displaced by palpable mass. Jarcho[3] points out that Hegar's sign and ballotment are characteristically absent and after five months the abdomen becomes very sensitive and fetal movements are very painful. This pain may confine the patient to bed. At term, spurious labor may set in with painful contraction and uterine bleeding.

All these findings will probably never be elicited in any one patient, and the diagnosis is usually made by correlation of physical findings, history, and laboratory aids. Laboratory tests of value would naturally include x-ray (revealing fetal position which is commonly abnormal) and Aschheim-Zondek test for trophoblastic activity. Cul-de-sac aspiration using a large bore needle was recommended by all authors whose articles were reviewed.

The management of abdominal pregnancy as outlined by Jarcho is somewhat dependent on the duration of gestation and viability. If the patient seeks advice at time of tubal rupture or abortion, then the treatment is simply laparotomy, with removal of gestation products, and hemostasis. In late abdominal pregnancies with a viable fetus, the question of whether to wait and obtain a living child sometimes arises. The dangers of this should be fully explained to the parents. If the decision is made to wait, hospitalization with preparations for immediate laparatomy is indicated. Gardner and Middlebrook[4] state that complications increase during and after the eighth month and concur with several authorities that the thirty-sixth week is the best time to operate. Some surgeons recommend immediate laparotomy as soon as a diagnosis is made, regardless of viability. Abdominal pregnancies have sepsis as a constant source of danger because of a developing placenta which may be attached to the intestine and result in perforation. If the fetus is dead, some authorities recommend waiting until placental blood supply is obliterated. Considerable controversy exists over management of the placenta, but I believe most authorities agree that leaving the placenta in place is probably best. Ware points out that correct diagnosis is the factor that will save more mothers and babies. Of several publications the lowest maternal mortality rate was 11.1 per cent and the highest 30 per cent. Jarcho states reduction of mortality in abdominal pregnancy largely depends upon early diagnosis, judicious management of the placenta and free use of blood transfusions.

An interesting publication by Suter and Wichser[5] of Louisiana State University and Charity Hospital revealed that the fate of viable babies in extra-uterine pregnancies is not a happy one. They followed up 31 recorded cases and added 4 of their own,

all over twenty-eight weeks' gestation, and found 38 per cent deformed and 24 per cent died before the eighth day. Of their 4 cases 3 died and in 24 hours, 3 were deformed, and a deformed child lived. They reviewed several articles pointing out the following figures: (1) Hellman and Simon's 1935 report of 316 cases had baby development recorded in 64 cases, 46.6 per cent were deformed, 44 per cent survived more than eight days, 36 per cent of the viable were deformed. (2) Stabler in 1938, reported 266 living babies at delivery of which 57 per cent lived more than eight days and 10.5 per cent of these were deformed. (3) Lelling in 1938, had 82 follow-ups of 106 cases and 39 per cent were deformed. (4) Mitra in 1942, reported 179 cases of five months' or more gestation of which 23.5 per cent lived. Thirteen were followed and 10 of them were deformed. (5) Beacham reported 20 abdominal pregnancies of which 15 were viable. Suter concludes that one-fourth of extra-uterine pregnancies after the fifth month will result in viable living babies, one-third of these will be deformed, one-half of the viable babies will live more than eight days.

Between January 1, 1940, and December 31, 1949, there were a total of 13,895 obstetrical and gynecological admissions to University Hospital. Ectopic pregnancy was diagnosed in 70 cases with an incidence of 0.5 per cent and abdominal pregnancy was diagnosed in 9 cases (6 early and 3 late cases) with an incidence of 0.064 per cent. These early abdominal pregnancies are presented in order of admission to hospital as follows:

CASE REPORTS

Case No. 1.—21 year old colored female, gravida 1, para 0—sts neg.

Date of admission: April 29, 1942. Date of operation April 29, 1942. Last menstrual period, January 29, 1942.

Past History: Negative.

Present Illness: Fainting spells, 1 month; vaginal spotting, three weeks; vomiting, three weeks.

Admission Signs and Symptoms: Abdomen distended and tender, palpable mass and fluid in right lower quadrant. Uterus firm but size of 10 weeks' gestation. No vaginal bleeding. Pulse 120/min. BP 115/60. Temp. 99.6, RBC 1.37, HB. 42 per cent, WBC 19.7.

Course in Hospital: Diagnosed as ruptured ectopic and taken to operating room 4½ hours after admission.

Operative Findings: 1. Ruptured right tube with attachment of placenta to omentum and part of bowel. 2. 2000 cc. old and fresh blood. 3. fetus 3-3½ months gestation.

Operation: Right salpingectomy. Part of placenta left in place.

Postoperative Course: Uneventful.

Follow-up: Spontaneous delivery of term viable fetus 1 year later.

Case No. 2.—29 year old colored female, gravida 1, para 0. sts negative.

Date of admission: July 31, 1945. Date of operation August 21, 1945. Last menstrual period, April 15, 1945.

Past History: Ten years' sterility. Questionable gonorrhea two years previously.

Present Illness: Sudden sharp pain in lower abdomen 1 month, previously while straining. Patient vomited following this. Patient seen by doctor at this time and diagnosed as culdesac abscess. Recurrent lower quadrant pains every 3-4 days. No vaginal bleeding.

Admission Signs and Symptoms: Obese abdomen, lower abdominal tenderness, bulging culdesac mass, very tender mass 15 cm. above pubis. No vaginal bleeding. Pulse 138/min., B.P. 120/80, temp. 100°, RBC 2.1, hb. 6 gm., WBC 16.7.

Course in Hospital: Diagnosed as culdesac abscess. Culdesac aspiration—honey colored fluid and bright and dark blood. Cultures—no growth. Continued pain. Positive Aschheim-Zondek—then laparotomy.

Operative Findings: Blood in abdominal cavity, numerous adhesions between omentum, bowel, uterus, tubes and ovaries. Fetus, 14 cm in size in culdesac with placenta attached to right tube and ovary. Myoma, 5 cm. on posterior wall of uterus.

Operation: Bilateral salpingectomy, partial right oophorectomy and removal of products of pregnancy.

Postoperative Course: Temperature 103° first postoperative day.

Follow-up: Three months postoperatively. Frequent "gas pains" 2° retroversion of uterus.

Case No. 3.—29 year old, white female, gravida 5, para. 3. sts negative.

Date of admission: November 4, 1947. Date of operation: November 18, 1947. Last menstrual period, August 21, 1947.

Past History: Spontaneous abortion, 1943, with subsequent term delivery 1945. Irregular periods since 1945, jaundice 5 months prior to admission.

Present Illness: Slight irregular vaginal bleeding since August. Six weeks prior to admission after 6 Carter's Little Liver pills, severe epigastric and left lower quadrant pain. Abdomen distended and "gas pains". Sharp suprapubic pain with

micturition. Projectile vomiting nine days. Black urine two weeks.

Admission Signs and Symptoms: Abdomen quite tender, distended, with marked rebound tenderness. Left adnexal mass. Eroded bleeding cervix. RBC 1.69, HB. 35 per cent, WBC 8.8, B.P. 100/56, pulse 94, temperature 99.8.

Course in Hospital: Multiple transfusions. Aschheim-Zondek test positive. Culdesac puncture with blood on aspiration.

Operative Findings: Placenta attached to posterior surface of uterus, left broad ligament and several loops of bowel. Three inch fetus. Left tube ruptured.

Operation: Left salpingectomy, removal of fetus.

Postoperative Course: Uneventful.

Follow-up: Two months' check—suprapubic pain, greenish discharge, cystocele and rectocele.

Case No. 4.—26 year old, colored female, gravida 3, para 2, sts neg.

Date of admission: December 30, 1948. Date of operation January 28, 1949. Last menstrual period, October 3, 1948.

Past History: Seven years' sterility.

Present Illness: Three weeks previously, lower abdominal pain and vaginal bleeding. This grew worse progressively until admission.

Admission Signs and Symptoms: Abdominal tenderness with guarding and rebound suprapubic tender mass. Culdesac and right adnexal tender mass. RBC 2.7, hb. 10 GM., WBC 9.3, temp. 98°, B.P. 120/76, pulse 80.

Course in Hospital: Negative culdesac aspiration. X-ray: No fetal skeleton, Aschheim-Zondek positive.

Operative Findings: Laminated clots. Fetal sac behind uterus. Twelve cm. fetus, placenta separated.

Operation: Laparotomy with removal of placenta and fetus. Draining through stab wound in right lower quadrant.

Postoperative Course: Uneventful.

Follow-up: 2 months—grapefruit size mass in culdesac. 6 months—induration of culdesac: 11 months—induration of culdesac.

Case No. 5.—32 years old, white, gravida 5, para 4, sts negative.

Date of Admission: April 29, 1949. Date of operation, May 12, 1949. Last menstrual period, September 8, 1948.

Past History: Last pregnancy 1943, resulted in neonatal jaundice and death of twins.

Present Illness: Sharp "dulling" pains in left lower quadrant in December and January. Vaginal bleeding in December and January. Severe pains plus bleeding April 17, 1949, which continued until admission. Lower abdomen very tender since April 17, 1949. Hospitalized and treated in December and January.

Admission Signs and Symptoms: Distended, soft, tender abdomen, bleeding from os which was 1 cm. dilated. Fundus to level of umbilicus. Marked induration of culdesac and parametria. RBC 2.75, hb. 8.5, WBC 13.4, temperature 103°, pulse 102/min., B.P. 120/70.

Course in Hospital: Multiple transfusions with reactions. Laboratory studies. Medical induction of labor without success.

Operative Finding: Large mass posterior to uterus incorporating omentum, bowel, adnexal structures, and uterus. 20 cm. necrotic fetus. Several transfusion reactions on table.

Operation: Subtotal hysterectomy with removal of fetus.

Postoperative Course: Jaundice on same day. Kidney shut-down, progressive rise in NPN, fecal fistula, expired June 2, 1949. Postmortem done. Cause of death: Lower nephron nephrosis. Rh negativity revealed only after several positive transfusions.

Case No. 6.—32 year old, colored, gravida 1, para 0—sts negative.

Date of Admission: May 5, 1949. Date of operation May 9, 1949. Last menstrual period, January 15, 1949.

Past History: G.C. at 13 years of age. No birth control. Antileutic treatment. Appendectomy and pelvic exploration, 5 years previously.

Present Illness: Dark brown vaginal spotting in March. Two episodes of lower abdominal cramping and vomiting in April. May 1, lower abdominal pain and severe vomiting. May 5, abdominal distention, persistent.

Admission Signs and Symptoms: Distended, guarded, tender lower abdomen, culdesac and right adnexal mass. Temperature 101°, pulse 110/min., B.P. 115/50, RBC 1.57, hb. 4 gm., WBC 6.9.

Course in Hospital: Decompression and laboratory studies and transfusion. (?) Pulmonary embolism on second hospital day. Culdesac aspiration revealed old blood.

Operative Findings: Placenta attached to left broad ligament. Fetus, 7 cm., old and fresh blood.

Operation: Placenta and fetus removed. Left infundibulopelvic ligament ligated.

Postoperative Course: Uneventful.

Follow-up: None.

SUMMARY

A general discussion of abdominal pregnancy has been given.

The advantages of early diagnosis of abdominal pregnancy have been set forth and a plea made for early recognition of abnormal signs and symptoms by both patient and physician.

Six cases of early abdominal pregnancy

have been presented. There was one maternal death resulting from transfusions with incompatible blood.

REFERENCES

1. Studdiford, W. E.: Primary peritoneal pregnancy. Am. J. Obst. & Gynec. 44:487, 1942.
2. Ware, H. H., Jr.: Observations on 13 cases of late extra uterine pregnancy. Am. J. Obst & Gynec. 55:561, 1948.
3. Jarcho, J.: Ectopic pregnancy. Am. J. Surg., 77:273 and 423, 1949.
4. Gardner, A. R. and Middlebrook, G.: Abdominal pregnancy: survey of literature and report of unusual case. Am. J. Surg., 66:161, 1944.
5. Suter, M. and Wichser, C.: The fate of the living viable babies in extra-uterine pregnancies. Am. J. Obst. & Gyn., 56:489, 1948.

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STRESS INCONTINENCE IN THE FEMALE*

EDWARD W. NELSON, M. D.†
FRANK G. NIX, M. D.‡
JOSEPH P. GRIFFON, M. D.‡

NEW ORLEANS

One reads with a sense of confusion the contradictory and often misleading literature on this subject since the original publication of Howard A. Kelly,[1] in 1913, in which he described the disorder and suggested a method of cure. Quoting directly from the original article:

"There is a peculiar form of incontinence of urine in women which either follows childbirth, or comes on about middle age and is not associated with any visible lesion of the urinary tract. Sometimes the most suggestive picture that can be seen by a cystoscope is a gaping internal sphincter orifice which closes sluggishly. In the incontinence which comes on at about 40 years or over, the patient usually first notices the occasional escape of a few drops of urine as she makes some unusual exertion. This grows worse until, at last, a little urine runs out whenever she coughs, laughs, sneezes, lifts anything, or steps up high. The condition may finally become so bad that the underclothes are constantly wet and soiled with the malodorous secretions.

"For a long time surgeons have tried to relieve this condition by a variety of operations, some of them more or less bizarre, designed to act upon the external urethral orifice by contracting it, or to resect the vagina at the internal orifice, or to kink the urethra, or in one way or another to compress it. The operators rarely succeed. I have seen many patients subjected to them, but none relieved.

"The key to successful treatment lies at the internal orifice of the urethra and in the sphincter muscle which controls the canal at this point . . . ."

All of these years following Kelly's original article, surgeons have been successful in relieving 80 to 90 per cent of the cases of stress incontinence by employing his original operation of tightening the internal sphincter at the bladder neck. Yet, every few years some new operation is introduced without sound reasoning, and with little accurate inquiry as to the true nature of the disorder.

PHYSIOLOGY

It has been shown, in 1936, that more than two-thirds of the female urethra can be safely excised without causing loss of urinary control,[2, 3] indicating that the normal mechanism responsible for continence does not reside in the distal two-thirds of the urethra. Yet, in 1947, Ries and DeCosta[4] report their successful experiences in relieving stress incontinence by employing an operation originally described by Berkow,[5] in which the urethra is "advanced and slightly angulated thereby narrowing the lumen . . . ." Finally, in 1949, Muellner[6] apparently unaware of preceding, if less complete, studies of a similar nature by Millin and Read[7] in England reported the results of his fluoroscopic studies on the physiology of micturition, Using a contrast medium in the bladder, subjects were studied in the recumbent and standing positions.

The effects of coughing and straining were noted, and the events at the beginning of micturition and when the urinary stream was inhibited were carefully observed. Spot films of the bladder while the patient was in various positions and during micturition were taken . . . The precise pathology of exertional incontinence became apparent when the findings in the normal nullipara and in the continent multipara were com-

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From the Department of Obstetrics and Gynecology, Tulane University of Louisiana School of Medicine and Charity Hospital of Louisiana, New Orleans, La.

†Assistant Professor, Clinical Obstetrics and Gynecology.

‡Instructor of Obstetrics and Gynecology.

pared with the observations in women with stress incontinence. All of the films in Muellner's report are anteroposterior views of the bladder. In a study now being done by Jeffcoate[8] of Liverpool, England, he has recorded lateral views of the bladder and urethra which shed a little more light on the etiology of stress incontinence. In the following diagrammatic sketches the anteroposterior and lateral views are compared.

In the normal continent nullipara (Fig. 1) anteroposterior x-rays taken in the

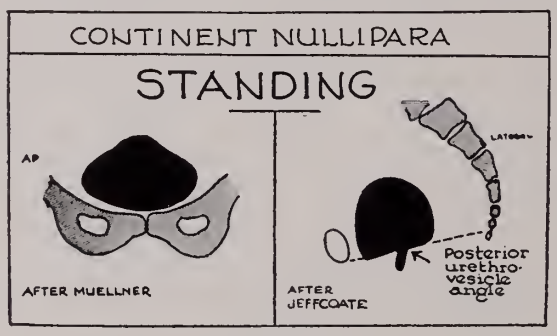

Figure 1.

standing position show the bladder base to be smooth in outline and lying just above the symphysis pubis—the dome of the bladder is somewhat pointed due to its intact ligamentous and fascial support. Lateral x-rays show the base of the bladder to be on a line from the inferior border of the symphysis pubis to the coccyx. When the bladder and urethra were visualized it was noted by Jeffcoate[8] that in continent individuals, whether nulliparous or multiparous, there was one consistent finding, namely, the persistence of the posterior urethrovesical angle.

On voluntary micturition (Fig. 2) the

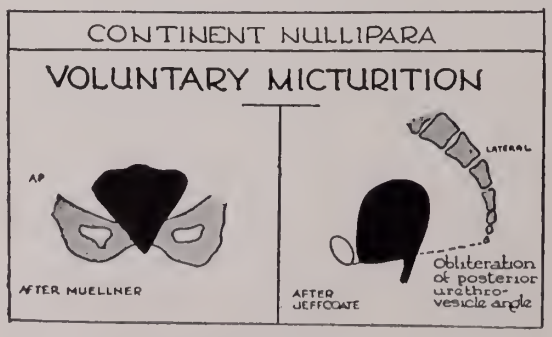

Figure 2.

bladder base descends and becomes pointed in the region of the internal sphincter. Lateral views show the obliteration of the posterior urethrovesical angle.

In the continent multipara (Fig. 3.)

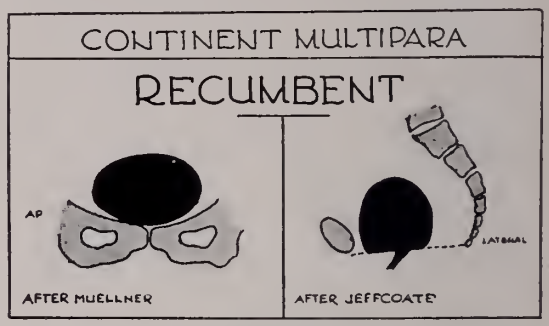

Figure 3.

events are similar with the exception that the bladder is somewhat larger and the ligamentous and fascial supports are more yielding. The base of the bladder descends to a lower level on standing (Fig. 4), and

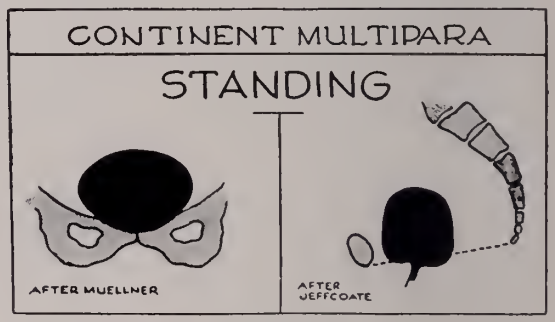

Figure 4.

with coughing or straining the whole bladder descends. (Fig. 5). It will be noted in

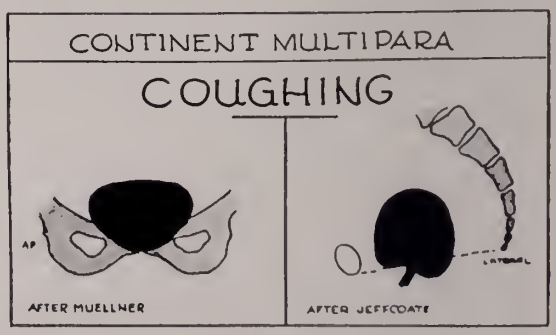

Figure 5.

the continent multipara that in the lateral views, although the bladder descends, the posterior urethrovesical angle is maintained. This fact probably explains why women with severe bladder prolapse may

still be entirely continent under stress conditions.

With the incontinent patient in the recumbent position, (Fig. 6) again the events

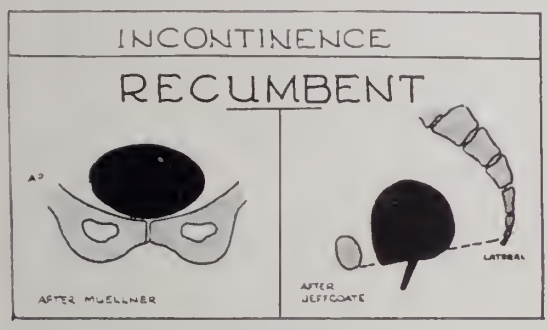

Figure 6.

are quite similar to the continent patient. On standing (Fig. 7), there is some pointing

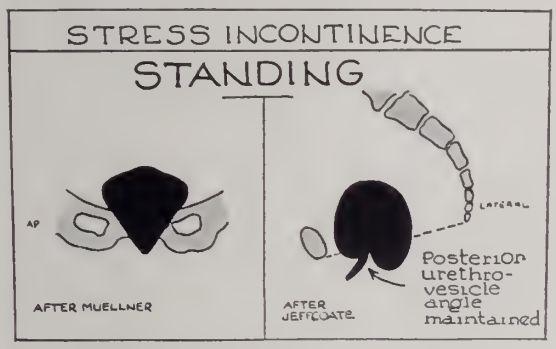

Figure 7.

of the bladder base similar to that seen in voluntary micturition but there is maintenance of the posterior urethrovesical angle. On coughing (Fig. 8), the base of

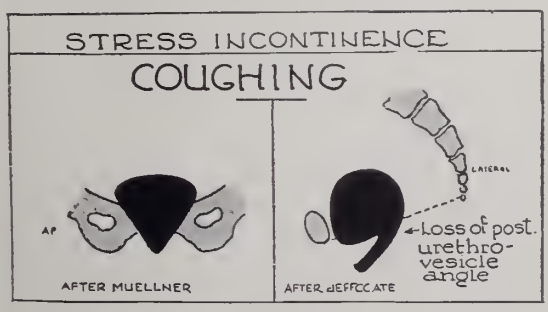

Figure 8.

the bladder descends to a more considerable degree, particularly the region of the internal sphincter, and the posterior angle is lost.

According to Muellner:

"While lying quietly the internal sphincter is shut off normally, showing no evidence of injury or deficiency. When the patient is now made to stand up, the bladder assumes an appearance which has been present in every case of incontinence studied by means of this technique, and one which can therefore be said to be typical of stress incontinence. While the bladder base descends as a whole in the erect as compared to the recumbent position, it is specifically the region of the internal sphincter which descends most and becomes the most dependent portion of the bladder. The bladder base assumes the pointed appearance (Fig. 7) characteristic of the bladder poised for micturition. It then takes only very little further descent to open the internal sphincter and to allow a jet of urine to escape. It is for this reason that most women with stress incontinence do not lose their urine when recumbent but lose it when they suddenly increase the intra-abdominal pressure while they are up and about."

Women with severe incontinence are apt to lose their bladder contents with the initial stress, because the supports of the internal sphincter lack the necessary tone to pull the sphincter up to level and thus inhibit the stream voluntarily. Study of incontinent nullipara revealed normal cystograms in the recumbent position. However, on standing, the pointed or nippled defect appeared at the internal sphincter and coughing allowed a jet of urine to escape.

Muellner offered no particular surgical solution to the problems which he illustrated so clearly but to him must go the credit for initiating this particular type of study which was later duplicated by Marchetti,[9] and at the present time by Jeffcoate. By this means we have derived our first understanding of the pathology of stress incontinence.

MARSHALL-MARCHETTI PROCEDURE

In 1949, an article appeared by Marshall, Marchetti, and Krantz,[10] describing a new operation for the correction of stress incontinence by suprapubic vesicourethral suspension. Marshall had become interested in the following manner: It had been noted for a long time that male patients who had undergone perineal or abdominoperineal resection of the rectum frequently suffered vesical dysfunction, specifically urinary retention, for some still unknown reason, other than that these patients had a marked sagging of the vesical base. Relief in these cases could be obtained by applying perineal

pressure or by transurethral resection. However, frequently a transurethral prostatectomy relieved the retention only to result in incontinence. On one of these cases, the first operation now called the "Marshall-Marchetti" procedure was performed. Simple suprabubic suspension of the vesical outlet, by suturing to the pubis, completely corrected his urinary control which has remained normal. Giving due credit, Hepburn,[11] in 1927, and later Miller,[12] in 1945, had performed this same operation to correct prolapse of the female urethra (not for incontinence). However, Miller had noted that one of his patients had developed better control following operation.

Nevertheless, Marshall, Marchetti, and Krantz[10] conceived the notion of applying this operation to the problem of common stress incontinence in the female. Accordingly, a prognostic test was devised to select cases for the operation. The test is made by filling the bladder with 250 cc. of saline and observing the patient's urinary control while coughing and straining in the prone and standing positions. The bladder is again filled and the test repeated while the vesical neck is held elevated and fixed by an Allis clamp attached to the vaginal wall (previously injected with novocaine) at a point judged to be under the interureteric ridge. The Allis clamp is pointed towards the umbilicus and downward movement is prevented on straining and coughing. If this elevation and fixation affords some urinary control, the test is considered favorable and pulling the vesical base downward by means of the Allis clamp should decrease control.

The operative technique as it has been now modified is as follows: A Foley (24F) catheter with a 30 cc. balloon is passed into the bladder transurethrally and the bag inflated. The space of Retzius is entered through a suprapubic incision, and the bladder and urethra separated by blunt dissection from the transversalis fascia and posterior surface of the pubis, down to within 1 cm. of the external urethral meatus. Deeply placed sutures are taken into the paraurethral tissue on either side, alternately forming two parallel rows, each suture being anchored to the cartilage of the symphysis at a sufficiently high level to elevate the urethra and bladder neck. If mild traction is kept on the urethral catheter, each successive suture can be taken into the angle between the catheter and the balloon thus slowly elevating the bladder neck. More lateral sutures may be used to draw up any redundancy of the vaginal wall. In this manner the space of Retzius is closed and the urinary tract is elevated and drawn backward from the introitus and fixed in broad apposition to the pubis. When cartilage is not available, periosteum is used. Additional sutures may be placed in the lower and lateral portions of the bladder, attaching them to the rectus fascia.

The catheter is withdrawn at the completion of the operation or on the following day if the urine is too grossly bloody. The authors reported on 50 cases so treated. The largest group of similar cases—38 females with the common variety of stress incontinence included 25 who had forty previous standard operations for the relief of incontinence, without success. Following the "Marshall-Marchetti" procedure 74 per cent were completely cured, 18 per cent improved, and 8 per cent unimproved.

It will be noted that in Marshall's original report, no physiologic basis was presented to account for the success of the operation performed, nor any reason sought for the failure of previous operations of a different type. However, in May 1949, Andrew Marchetti[9] presented the results of such a study before the American Gynecologic Society, perhaps prompted in his thinking by the previous work of Muellner.[6] In general, 12 patients with the complaint of stress incontinence, 5 of whom had had previous operations intended to relieve this symptom, were studied preoperatively and postoperatively. In accord with Muellner, cystometric studies were found to be essentially normal (there being no cases with increased intravesical pressure or "cord bladder"), and the cystographic studies were in complete confirmation of Muellner's studies. In the postoperative studies, the most striking

changes noted in the cystogram were the elevation and restoration of contour of the bladder neck. One surgical failure by the "Marshall-Marchetti" procedure was studied, and the cystogram revealed that no anatomical change had been effected, because of error in surgical technique by an inexperienced operator. This case was subsequently cured when the procedure was repeated.

In explanation of the mechanism wherein this operation corrects stress incontinence, Marchetti reverts back to Kelly's original dictum: "The key to successful treatment lies at the internal orifice of the urethra and in the sphincter muscle which controls the canal at this point."[9] He then adds: "Most sphincters have two or more relatively firm attachments for the execution of their normal function—simple elevation and fixation of the vesical outlet and urethra provide such attachment, and are a major factor in the maintenance of urinary control."

REVIEW OF 36 CASES

Since Marchetti's publication, we have been interested in the retropubic vesicle suspension, and have performed the operation in 36 cases. Our patients have been studied preoperatively by the usual methods, including cystoscopic examination to rule out such conditions as chronic urethritis and cystitis, urethral stricture, urethral and bladder polypi, and diverticula. Hypertrophy of the vesical neck has been met in only one instance, which will be described later. Preoperative and postoperative cystograms have been obtained on some patients although it is not considered necessary to elaborate such details with geometric mensuration as described by Thomas Ball at Cornell.[13] We feel that such elaborate radiographic studies add little to the original suggestion of Kelly,[1] that a mushroom (or Foley) catheter be placed in the bladder prior to surgery to facilitate identification of the bladder neck.

The small series of cases upon whom we have operated have been uniformly relieved of their stress incontinence, with two exceptions, which cases will be reported in detail.

In 19 of the 36 cases in this series, the "Marshall-Marchetti" procedure has been combined with abdominal hysterectomy, in 3 cases it has been combined with uterine suspension, and in 14 cases the procedure has been applied singly. The youngest patient was 26 and the oldest 69 years of age. There has been no mortality or morbidity attributable to the procedure. Although osteitis pubis[14] has been reported following retropubic prostatectomy, we have not encountered this complication. Only 5 of the patients had prior surgery for the correction of incontinence—1 Watkin's interposition operation, 3 vaginal hysterectomies with cystocele repair, and 1 cystocele repair alone. In carrying out the operation, we have followed the technic with modifications as presented by Marchetti in his second reported study,[9] with one small exception. After the vesical neck has been adequately suspended, fixation has been carried out laterally along Cooper's ligament, two or three sutures being placed on either side of the midpoint of the iliopectineal line. It is felt that this slight modification takes some of the strain off the more important sutures in the midline, and serves to prevent asymmetric displacement or lateral descent of the bladder. Perhaps this is an unnecessary precaution.

With the exception of 2 patients, our results have been gratifying, and we have now extended indications for the operation to the younger age group. These are principally cases with uterine retroversion, beginning prolapse and symptomatic cystocele, in whom uterine suspension is also advisable. There have been 2 instances of temporary apparent failure, which on study proved due to mild trigonitis; these responded quickly to conservative measures with complete relief of symptoms. It has been noteworthy among our cases, that when the urethral catheter is removed (twenty-four hours postoperatively) voluntary bladder evacuation has been prompt, and complete. We have noted no residual urine in any of our cases. Early ambulation has been practiced, and our patients have been usually

discharged from the hospital on the seventh postoperative day.

We have not found that the "Marshall-Marchetti procedure" adds to the shock of other operations, as long as the usual supportive care is maintained (replacement of blood loss, adequate oxygenation, etc.). One of our more recent cases combined total abdominal hysterectomy, bilateral salpingo-oophorectomy, inferior vena cava ligation, and bilateral interruption of the lumbar sympathetic chain (for recurrent femoral phlebitis, unimproved by previous femoral ligation). After the peritoneum was closed, a Marshall-Marchetti procedure was done, and this patient ambulated the following day. She was discharged from the hospital after an uneventful postoperative course, on the seventh postoperative day.

Another recent case combined Wertheim hysterectomy with bilateral Taussig gland dissection and bilateral lumbar sympathectomy, followed by Marshall-Marchetti procedure. This patient's convalescence was complicated by phlebothrombosis requiring bilateral superficial femoral vein ligation on the second postoperative day. Postoperative course was further complicated by peroneal nerve injury and atelectasis. She was discharged on the thirty-ninth postoperative day with no genitourinary complaints.

The two failures present features of interest. The first patient complained of urinary frequency caused by retention of urine following a previous abdominal hysterectomy. When this had persisted for several years, with chronically infected urine, a transurethral resection of the bladder neck was judged advisable and carried out. Following this procedure, the patient was relieved of symptoms over a period of months then became incontinent. When this latter symptom became intolerable, a vesical neck plication was performed—with accidental incision of the bladder mucosa. The surgical defect was repaired, but with resultant postoperative vesicovaginal fistula. Over a period of time, this healed spontaneously, but urinary incontinence persisted to a marked degree—this patient may have been well described as a "soaker". In an effort to afford this patient with some relief short of diversion of the urinary stream, consultation was requested, and the case reviewed by one of us (EWN). Physical findings were essentially normal. the prognostic test of Marshall-Marchetti was equivocal. Cystoscopic studies revealed only a very limited bladder capacity, and marked relaxation of the vesical sphincter. A retropubic bladder suspension with elevation and anterior fixation of the vesical neck was performed. For several days it seemed as though the procedure had been successful, when frequent uncontrollable emptying of the bladder returned. While the urine remained pus-free, incontinence persisted at bed rest, even with a retention catheter in place! It was thought that psychic factors played a large part in this particular case, but psychiatric consultation was declined. In desperation, a bilateral uretero-intestinal anastomosis was decided upon by two urologists in consultation. This procedure was carried out successfully from an anatomical standpoint, but the patient expired seventy-two hours after operation, with an autopsy diagnosis of hepatorenal failure. The second failure was in a 46 year old patient who had had a vaginal hysterectomy with anterior and posterior repair eight months prior to her last admission at which time a Marshall-Marchetti procedure was done. Following the vaginal hysterectomy and repair her urinary incontinence was as bad or worse than before operation with poor anatomic result as well. The patient also had an inguinal hernia. Preoperative studies were negative for any intrinsic or extrinsic bladder pathology. Following the Marshall-Marchetti procedure the patient was entirely continent. Urine was clear and catheter removed on first postoperativetive day with spontaneous voiding and no residual urine. She had a benign postoperative course and was discharged on the seventh postoperative day. Cystogram studies revealed the bladder to be well supported and it was felt that the patient had excellent symptomatic and anatomic results.

Four weeks following surgery she was seen in the clinic and had no genitourinary complaints. Eleven weeks following surgery she again became incontinent and on examination anatomical support of the bladder was found to be not maintained.

Considering the above cases, it would seem wise to evaluate every case very carefully before any surgical procedure is anticipated. Local causes of incontinence must be ruled out by careful urologic survey. Urethral strictures, chronic trigonitis, polypi, posterior urethritis, and fibrosis of the bladder neck must be excluded as possible causes of incontinence. Rashbaum and Mandelbaum[15] have suggested a rational regimen of nonoperative treatment to differentiate true and false incontinence, including dilation of the urethra, local therapy to the trigone, and voluntary exercise of the vesical sphincter mechanism. Needless to say, neurogenic bladder must be excluded as a diagnostic possibility, by cystometric studies, and careful neurological examination.

MUSCULAR EXERCISES

The various musculofascial sling operations, both retropubic and suprapubic, as described by Frankenheim, Michon, Aldridge, Studdiford, Millin-Read, (and others) have made many advocates, but again result in unavoidable failures. Their aim is praiseworthy, and somewhat physiologic, but accomplished with considerably more effort, and greater risk of failure than the Marshall-Marchetti procedure. Several of Marshall's original cases were patients in whom various sling operations had been unsuccessful.

Arnold Kegel,[16, 17] of Los Angeles, has contributed something which promises to be of great prophylactic value, and therapeutic usefulness, despite Novak's comments.[18] There is no doubt that purposeful, properly directed perineal and levator exercises, even without the use of Kegel's perineometer, will initiate or restore necessary musculofascial tone, and the use of the perineometer should simplify and enhance the results obtained. Kegel himself was the first to outline the limitations of muscle reeducation and resistive exercises in his own publication:

> "Conditions not suited to physiologic therapy are those in which gross separation of the fascias and muscles is evident, such as is found in true cystocele, or herniation of the bladder, true rectocele, with disruption of the perineal body, and in procidentia. Physiologic therapy in such conditions does not cure the herniation but does improve the tone and quality of the muscles which surround the hiatus."

We now consider it a neglect in postpartum, and postoperative care, for the patient not to be instructed in the practice of perineal exercise. We agree with Kegel that many women are totally unaware of the voluntary control of their unused flaccid perineal muscles, and that many symptoms and disorders, including stress incontinence are amenable to correction by this method. To the unintiated it is indeed a "worthwhile spectacle" (to quote Novak[18] in an unintended sense) to observe even a large cystocele drawn up into the pelvis by voluntary muscle contraction. While such may not always be curative, symptomatic cystoceles are often made asymptomatic, and a feeling of well-being is restored to patients for whom surgical correction may be inexpedient, or ill-advised.

It remains to say that the last chapter on the treatment of stress incontinence has not been written. Present day operations have not been thoroughly evaluated, modifications of existing procedures will be offered, and inevitably, new operations will be introduced. However, few would dare to disagree that the majority of cases today are still best treated by Kelly's original method (perhaps with slight modification), and that the 10 to 20 per cent failures may then be treated by one of the newer methods. At present it would seem that the Marshall-Marchetti procedure offers distinct advantage over the others in the correction of most of these failures. Time and accumulated experience will decide the proper role of retropubic vesicourethral suspension and fixation among the primary cases, but we venture to predict that its applications will grow, and in time it will become the pro-

cedure of election in cases requiring other abdominal surgery.

REFERENCES

1. Kelly, H. A.: Urol. & Cut. Rev., 17:291, 1913.
2. Lazarus, J. A., and Schneider, A. D.: J. Urol. 35:235, 1936.
3. Watson, E. M.: J. Urol. 35:654, 1936.
4. Reis, R. A., and DeCosta, E. J.: Am. J. Obst. & Gynec., 53:776, 1947.
5. Berkow, S. G.: Am. J. Obst. & Gynec. 41:1051, 1941.
6. Muellner, S. R.: Surg. Gynec. & Obst. 88:237, 1949.
7. Millin, T., and Read, C. D.: Brit. Postgrad. J. 24:267, 1948.
8. Jeffcoate, T. N. A.: Personal Communication, 1952.
9. Marchetti, A. A.: Am. J. Obst. & Gynec. 58:1145, 1949.
10. Marshall, V. F., Marchetti, A. A. and Krantz, K. E.: Surg., Gynec. & Obst. 88:509, 1949.
11. Hepburn, T. N.: Surg., Gynec. & Obst. 44:400, 1927.
12. Miller, J. R.: Am. J. Obst. & Gynec. 49:591, 1945.
13. Ball, T. L.: Am. J. Obst. & Gynec. 59:1243, 1950.
14. Pearlman, C. K., J. Urol., 67:117, 1952.
15. Rashbaum, M., and Mendelbaum, C. C.: Am. J. Obst. & Gynec. 56:777, 1948.
16. Kegel, A. H.: Am. J. Obst. & Gynec. 56:238, 1948.
17. Kegel, A. H.: West. J. Surg. Obst. & Gynec. 57:527, 1949.
18. Novak, E.: Obst. & Gynec. Survey, Editorial Comment, 4:154, 1949.

DERMOID CYST OF THE OVARY

HIRAM W. K. BATSON, M. D.†

NEW ORLEANS

It is the purpose of this paper to present briefly the results of a study of 108 cases of ovarian dermoids treated at Charity Hospital of Louisana, at New Orleans, during a seven-year period from January 1, 1945, through December 31, 1951.

INCIDENCE

Dermoids are the most common ovarian neoplasm found in the premenstrual phase of life and are most frequently encountered during the period of sexual maturity. They constitute about 10 per cent of all ovarian tumors.

The youngest patient in this series was 3 years of age, the oldest 75. Approximately 70 per cent were between the ages of 15 to 40 years.

The location of tumors is shown in Table 1. There was a predilection for the right ovary. The cysts were bilateral in 12.9 per cent of the cases.

TABLE 1
LOCATION OF TUMORS

Right ovary	54	(50.0%)
Left ovary	38	(35.2%)
Bilateral	14	(12.9%)
Unrecorded	2	(1.9%)

PATHOLOGY

The dermoid cyst is apparently present at birth. It is of slow growth, and after attaining a certain size tends to become stationary. The largest cyst in this group measured 28 cms. in diameter, and the smallest about 8 mm. The average size was 10.16 cms.

Grossly, the tumor is very characteristic. It is usually globular with a smooth and glistening surface. After exposure to room temperature it becomes dull and wrinkled. The contents consist of a yellow, oily substance containing hair. At body temperature the contents are fluid, but change to a doughy, semisolid mass after removal. The wall varies in thickness and calciferous deposits are frequent. At one part there is a raised nipple-shaped protuberance commonly called the dermoid process, dermoid plug or mamilla from which all elements are derived. One or more teeth, usually of the incisor or molar variety, may be found along with bone. In one tumor of this group 3 teeth implanted in a rudimentary maxilla were observed.

Microscopically, the cyst is more complex. The majority contain structures from all three germ layers. A review of the microscopical sections from 75 tumors in this series revealed ectodermal derivatives in all cases, mesodermal elements in 92 per cent and entodermal structures in 62 per cent. Structures observed most frequently were stratified squamous epithelium, sebaceous glands, sweat glands, hair follicles, apocrine glands, salivary glands, nerve tissue, bone, hyaline cartilage, smooth muscle, fat, gastrointestinal tract epithelium, respiratory tract epithelium and thyroid.

A frequent finding which in itself is considered pathognomonic are sieve-like areas lined with giant cells separated by thin partitions of fibrous tissue.[6] This is thought

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†From the Independent Obstetrical and Gynecological Service, Charity Hospital, New Orleans, Louisiana.

to represent a foreign body reaction resulting from the penetration of fatty material into the adjacent tissue.

The pathological complications met with are presented in Table 2. One cyst was acutely infected. Dense adhesions were present in 17 cases; however, no tumor was ruptured upon removal.

TABLE 2
PATHOLOGICAL COMPLICATIONS

Acute infection	1
Chronic infection and adhesions	17
Torsion	8
Rupture	1
Intracystic hemorrhage	1
Squamous cell carcinoma	1

In those examined microscopically an inflammatory reaction was observed in 51 percent. The pedicle was twisted in 8 cases. There was 1 case of massive hemorrhage within the cyst with a postoperative death and 1 case of spontaneous rupture with complete recovery. The contents of a dermoid are considered extremely irritating to the peritoneum, but this was not evident in the latter case. Malignant change in the form of a squamous cell carcinoma was present in 1 case. There were no parasitic cysts in this series.

The associated pelvic pathology is shown in Table 3. Fibroids were present in 28 cases, and were the only associated entity appearing in appreciable numbers. All of the associated ovarian tumors were present in the ovary opposite the dermoid. The significance of these observations is unknown. The frequent association of pseudomucinous cysts was not observed.

TABLE 3
ASSOCIATED PELVIC PATHOLOGY

Uterine	
Fibroids	28
Adenomyosis	3
Cervical carcinoma	1
Adeno-acanthoma	1
Ovarian	
Brenner tumor	1
Fibroma	1
Granulosa cell tumor	1

CLINICAL CHARACTERISTICS

Dermoid cysts produce no characteristic symptoms. Blackwell *et al*[1] have previously established the facts that they do not cause irregular uterine bleeding or alter reproduction, and that there is no relationship between the size of the cyst and the symptoms.

Seven cases in this series were associated with intra-uterine pregnancy. Two of these presented large, fixed pelvic masses during early pregnancy, and the outcome of surgical intervention was satisfactory in both. Four cases associated with full term pregnancy, 2 of which had bilateral dermoids, were treated by cesarean section because of the possibility of obstructed vaginal delivery or rupture. In 1 case at repeat section the dermoid was an incidental finding upon examination of the adnexae.

Dermoid cyst was correctly diagnosed in 22 instances. Of these, 15 were confirmed by x-ray. Roentgenologic examination serves as the best method for the confirmation of an ovarian dermoid, and is usually based on the presence of teeth or other calcified shadows. In the absence of calcification, a central area of decreased density surrounded by a narrow zone of increased density is diagnostic[7] (Figure 1). The in-

Fig. 1.—Roentgenogram of abdomen showing dermoid with tooth and rim of increased density (arrow) surrounding central area of decreased density.

terior presents a banded, mottled appearance and is due to the hair, and to the sebaceous material which is liquid at body temperature. The zone of increased density is due to the structure of the capsule. An appreciation of these signs will lead to a greater number of correct preoperative diagnoses.

The operative and postoperative complications correspond to those of any gynecologic series (Table 3).

TABLE 4
OPERATIVE AND POSTOPERATIVE COMPLICATIONS

Operative	
Ureteral injury	1
Postoperative	
Peritonitis	2
Wound infection	2
Intestinal obstruction	1
Evisceration	1
Incision hernia	1
Death	
Lower nephron syndrome	1
Squamous cell carcinoma (metastases)	1
Undetermined	1

For the entire series there were 3 deaths representing a mortality rate of 2.87 per cent.

OPERATIVE TREATMENT

Oophorectomy is the procedure of choice. The majority of these tumors are associated with normal ovarian tissue; therefore, resection, if possible, is recommended in young patients, and especially in those in whom the cysts are bilateral. In the case of a unilateral dermoid, the opposite ovary may contain a tiny, deeply buried cyst which is not apparent upon superficial examination. Routine bisection is indicated in order to exclude subsequent trouble. Large dermoids in a position to obstruct vaginal delivery should be removed during pregnancy.

SUMMARY AND CONCLUSIONS

The results of a study of 108 ovarian dermoids treated at Charity Hospital of Louisiana at New Orleans, have been presented.

Although dermoids are found at any age, they are most frequently encountered during the reproductive period of life. The average age for this series was 32.85 years.

There was a predilection for the right ovary. Twelve and nine tenths (12.9) per cent were bilateral.

The largest cyst was 28 cms. in diameter, the smallest 8 mm.

A review of the microscopic sections from 75 tumors revealed ectodermal derivatives in all, mesodermal structures in 92 per cent and entodermal elements in 62 per cent. A higher percentage of entodermal elements would have been obtained with a greater number of sections. It is agreed that the term "dermoid cyst" does not describe the lesion adequately.

The most frequent pathological complication was infection, and the next most frequent was torsion.

There are no characteristic symptoms.

The incidence of malignant change was 0.92 per cent.

A high percentage of these tumors may be diagnosed preoperatively by roentgenologic examination.

When indicated, resection of dermoids should be done to conserve ovarian function.

REFERENCES

1. Blackwell, W. J., Dockerty, M. D., Masson, J. C., and Mussey, R. D.: Am. J. Obst. & Gynec. 51:151, 1946.
2. Bowles, H. E.: Surg., Gynec. & Obst. 65:340, 1937.
3. Ewing, James: Neoplastic Diseases, Philadelphia, 1940, W. B. Saunders Co.
4. Glass, M. G. and Rosenthal, A. H.: Am. J. Obst. & Gynec. 33:813, 1937.
5. Koucky, J. D. Ann. Surg. 81:821, 1925.
6. Novak, Emil: Gynecological and Obstetrical Pathology, Philadelphia, 1947, W. B. Saunders Co.
7. Robins, S. A. and White, G.: Am. J. Roentgenol. 43:30, 1940.
8. Spillman, R.: Arch Surg. 18:1298, 1929.

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REPORT OF THE PRESIDENT'S COMMISSION ON THE HEALTH NEEDS OF THE NATION

The first volume of the report of the President's Commission on the Health Needs of the Nation, containing all recommendations, was made public on December 18. The remaining four volumes, devoted to details and statistics, are not yet ready for release.

The Commission was established by executive order of President Truman under the Chairmanship of Dr. Paul B. Magnuson. The membership of the Committee, reportedly nominated by the Chairman and appointed by the President, consisted of four other physicians, five educators, and five consumer representatives. Among the latter were Albert J. Hayes, head of the American Federation of Labor Machinist Union, Elizabeth S. Magee, secretary of the National Consumers League, and Walter P. Reuther, president of the CIO auto workers.

The report recommended momentous changes that would affect virtually every phase of medical activity. The cost would be supposedly about one billion dollars more annually, which the Commission says the country cannot afford not to spend. The changes would involve methods and type of practice and means of financing. Senator Lehman of New York is reported as planning legislation to put its provisions into operation. Probably the report will get the support of the Democratic party and eventually become a source of political controversy.

The report concerns everyone as the extent to which its provisions are adopted will influence the type of medical care and the position of the doctor, who may find himself called upon to give unlimited service for a limited compensation. It should be thoughtfully studied, and careful consideration given to the changes which would probably follow its operation.

The introduction to the report presents a carefully built up presentation of the theory of the welfare state as it applies to medicine. The Commission formulated the following principles which were to be used as a guide in approaching the health problem:

1. Access to the means for the attainment and preservation of health is a basic human right.

2. Effort of the individual himself is a vitally important factor in attaining and maintaining health.

3. The physician-patient relationship is so fundamental to health that everyone should have a personal physician.

4. The physician should have access to

proper facilities and equipment, affiliation on some basis with a hospital, and the help of trained personnel in order to fulfill his part in providing comprehensive health services.

5. Comprehensive health service includes the positive promotion of health, the prevention of disease, the rehabilitation of the disabled—all supported by constantly improving education of personnel and a continuous program of research.

6. Comprehensive health service is the concern of society and is best insured when all elements of society participate in providing it.

7. Responsibility for health is a joint one, with the individual citizen and local, State, federal governments each having major contributions to make toward its fuller realization.

8. The American people desire and deserve comprehensive health service of the highest quality and that in our dynamic expanding economy the means can be found to provide it.

9. The same high quality of health services should be available to all people equally.

10. A health program must take into account the progress and experience of the past, the realities of the present, and must be flexible enough to cope with future changes.

These objectives are to be secured principally by an increase in the activity of the federal government in all phases of health.

On medical service organization, the Commission expresses its findings as follows:

"The genius for organization, so characteristic of American life in general, is conspicuous in health services by its absence . . . the lack of organization that prevails in medical practice is the despair of the industrialist and the labor leader."

The type of organization recommended by the Commission is to be headed by the creation of a new department of cabinet rank of Health and Security. In connection with this department would be a permanent Federal Health Commission. The expanded activities of the government in the field of health would be expressed through this department. Departments of a similar function and nature would be developed in the several States, and still further, regionally and locally. Plans would be made toward utilization and expansion of facilities in the several areas. Federal money, which is regarded as a catalyst in the situation, would be extended to the States and local areas by means of grants-in-aid. The principal objectives of these grants-in-aid would be (a) to pay premiums for welfare cases, utilizing the prepayment plans already in existence, (b) to promote and extend prepayment coverage to the general public, subsidizing low income groups where necessary, and (c) to operate facilities for long range illness, available to all without a means test.

The Commission "accepts" the present prepayment plans as the most feasible vehicle for eventually bringing comprehensive medical protection to almost everyone. To further encourage prepayment plans to extend their coverage and liberalize their benefits, the ban would be lifted on payroll deductions from U. S. employees for health insurance, and OASI (Old Age and Survivors Insurance) funds would be used to pay premiums for OASI beneficiaries. Eventually, care of veterans and other federal patients would be taken over by the state and local medical care systems. The report does not, however, investigate the fundamental changes in prepayment plans that these additional changes would produce.

Additional functions of the Department of Health and Security would be aid to medical education, expansion of group practice, expansion of the hospital program, authoritative extension and further development in the field of public health, assistance to general practitioners in the matter of education and training and extension of hospital affiliations, development of hospitals to function increasingly as health and rehabilitation centers for the community.

Anticipated cost for such a program is one billion dollars in addition to the one

billion dollars which the federal government is already spending in the field of health.

The advantages of such a program are that it presents many possible solutions to some of the problems that have developed in the field of medical care. The plan and the plea for organization and teamwork take a position somewhat between that of compulsory supported medical care advocated by Truman and his followers and voluntary prepayment insurance advocated by organized medicine. The disadvantages will be discussed in these columns from time to time as the details unfold. At the present time, certain comments are in order.

In the Organization Section of this issue is a statement from Dr. Louis H. Bauer, president of the A.M.A., in regard to the Commission's recommendations, which reads:

"Funds collected through the OASI (Old Age and Survivors Insurance) mechanism be utilized to purchase personal health service benefits on a prepayment basis for beneficiaries of that insurance group, under a plan which meets Federal standards and which does not involve a means test."

This, in effect, he considers, recommends national compulsory health insurance for those beneficiaries who now number 4,500,000. It is obviously objectionable, and he further states:

"We find it extraordinary that this commission should, in its report, recommend a governmental system of paying for medical care which has been rejected repeatedly by the American people, by Congress, and by the medical profession."

It has been stated that the plan is designed primarily to help—by paying all or part of the premiums for health insurance, that 48 per cent of our families who receive $3000 or less annual income; also, persons with high income or no income at all would be helped in the same way if they could not meet the full cost of insurance premiums. This, presumably, is the same seventy million people who Oscar Ewing said could not pay for adequate medical care. This means that each self sustaining worker would have to pay for his own medical care and for someone else's, whether it came through taxes or not.

Apparently the plan is designed to shift the center of gravity of medical practice from the physician to the hospital or clinic. Such has been advocated in the past in high places and is being opposed with increasing vigor by organized medicine in recent years. The plan is impossible of operation without a marked increase in every form of medical facility. It envisages the following increases for a supposed population of 170,000,000 by 1960:

	NOW	GOAL FOR 1960
Federal aid per year	$1,000,000,000	$2,000,000,000
General hospital beds	470,000	700,000
Mental hospital beds	425,000	755,000
Physicians	201,000	234,000
Nurses	365,000	450,000

The expense of operating a plan of the kind projected would be probably five or ten times the one billion dollars anticipated in the recommendations. For instance, it has been found that the expense of submitting, processing, investigating, collecting, and paying the claim for two house visits of a physician is approximately equal to the cost of those two visits under our present system.

The pressure of marginal groups will produce a tendency in legislation to extend the coverage which the government pays for sickness insurance. The annual growth of the percentage of individuals covered will make tax paid prepayment insurance almost universal, although not compulsory. The corollary to this will be a gigantic bureau, larger and more powerful than any now in existence, and vitally touching the life of every individual. The expense will increase to approach the situation reported from New Zealand, where at one time 40 per cent of federal revenue was absorbed by state medical care. The money will come from the citizens' taxes funneled through government agencies. The individual will have scant interest in how these facilities or services are conserved.

This plan, as a whole, proposes a radi-

cal departure from the present methods of medical practice. It could well bring about changes which are unforseen and undesirable. The plan should be studied in considerable detail by the profession. It may be that the profession will prefer a continuation of the evolutionary process now in existence.

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ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

NEW JOURNAL

You will notice that in conformity with the action and direction of the House of Delegates, the name of our journal has been changed to "The Journal of the Louisiana State Medical Society," beginning with the January number. You will also note that the front cover has been changed to meet the trend of modern times and in keeping with other state journals, which more or less show some color and life. We feel that our new cover immediately brings to your attention the fact that it is the Louisiana State journal with Louisiana in bold type and appearing most prominently in clear view of the reader.

You will also note that the dimensions of the journal have been increased somewhat to conform more universally to the size of other state journals and for better advertising purposes.

We hope our selection of the new cover, which was approved by the Journal Committee, will also meet with your approval, and the journal will continue to prosper and meet the needs of our Society and have the approval of its readers.

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REPORT OF PRESIDENT'S COMMISSION ON THE HEALTH NEEDS OF THE NATION

Reading of the following should convince you that our claims and contentions as expressed in our summary in the Organization Section of the October issue regarding the possible recommendations that would be made by Dr. Magnusson and his committee were absolutely true. In view of the fact that Mr. Stevenson, the Democratic candidate for president, expressed great confidence in his friend, Dr. Magnusson, and would await his report before expressing his final stand on Socialized Medicine, we should feel great satisfaction and gratification over the election of General Eisenhower.

(Released on December 18, 1952)

"CHICAGO—Dr. Louis H. Bauer, Hempstead, N. Y., President of the American Medical Association, said today that one of the major recommendations of the President's Commission on the Health Needs of the Nation provides that 'the federal government, through payroll deductions, would pay directly for the medical care of a large segment of the population.'

" 'This,' he added, 'is national compulsory health insurance.'

"The American Medical Association is withholding comment on the full report of the Commission, pending careful study of the document by a four-man committee appointed by the Board of Trustees. This committee, which has not yet had an opportunity to study all of the Commission's material, is composed of Drs. Bauer, Gunnar Gunderson, LaCrosse, Wis.; Edwin S. Hamilton, Kankakee, Ill.; and Walter B. Martin, Norfolk, Virginia. It will be several weeks before the A. M. A. committee makes its analytical report.

"Dr. Bauer said that since this one recommendation is 'so obviously objectionable, we wish to call attention to it immediately.'

"He referred to Point 4 of the recommendations (appearing on page 10 of the News Release and page 148B of Volume 1 of the Commission Report) which reads:

" 'Funds collected through the OASI (Old Age and Survivors Insurance) mechanism be utilized to purchase personal health service benefits on a prepayment basis for beneficiaries of that insurance group, under a plan

which meets Federal standards and which does not involve a means test.' (A means test is a test to determine ability to pay.)

"Continuing Dr. Bauer said:

"'We wonder if all the Commission members who signed the Report understood the full implications of this recommendation.

"'Although the Commission does not use the term, this proposal, in effect, recommends national compulsory health insurance.

"'We find it extraordinary that this Commission should, in its report, recommend a governmental system of paying for medical care which has been rejected repeatedly by the American people, by Congress and by the medical profession.

"'In this single recommendation, the Commission proposes that funds collected through the Social Security System be used to purchase medical care for beneficiaries (now 4½ million) covered by that system. Under this plan, the federal government, through payroll deductions, would pay directly for the medical care of an ever-increasing segment of our population, and our health services would inevitably be controlled by Big Government.

"In our cursory study of the Report, we have observed numerous false and contradictory conclusions and questionable recommendations which the American Medical Association will comment upon in detail at a later date.'"

LOUISIANA HEALTH COUNCIL MEETING

The Louisiana State Medical Society was represented by two members of the Rural and Urban Health Committee, Doctors M. C. Wiginton and J. P. Sanders, at the Louisiana Health Council meeting held in Shreveport in November. The program was the longest and most complete that has been held to date and this is the first time the Louisiana Health Council has attempted to hold a three day meeting.

Thursday afternoon and night were reserved for business sessions. Dr. J. P. Sanders gave a paper on the "Geriatric Problem," stressing the fact that old people should be kept on the job for longer periods of time.

The panel Friday morning was dedicated to "Youth Problems" and was headed by Mr. Higgins, of Baton Rouge, Dr. Knipmeyer, Parish Health Officer, Natchitoches, Judge Chris Barnett, Juvenile Judge in Shreveport and several other members. Important on this panel were two Byrd High School students of Shreveport, and four college students from Northwestern at Natchitoches.

In the afternoon, a discussion on the recruitment of nurses, both on the professional and undergraduate level, was covered. Many important points were brought out; chiefly that there are still not enough nurses and that all available agencies must be brought into the picture in order to get enough nurses to serve the needs of the hospitals, the doctors and the patients of Louisiana.

A banquet was held Friday night after which a panel discussion on the "Future of the Health Services of Louisiana" was presented. It was again stressed that there has not been enough money appropriated to carry on the health services over the State properly. Funds for these services should be increased even at the expense of some other services.

The Saturday morning session was composed of a summary on Pediatrics, which included safety problems, polio, and proper infant feeding. This was discussed by Dr. Nelson K. Ordway, of New Orleans, Dr. George Wolfe, of Shreveport, and Dr. Smith of Lake Charles.

At the conclusion of the meeting election of officers took place and all officers were returned to office with the exception of Dr. Homer L. Hitt, the retiring first vice-president. He was succeeded by Dr. W. L. Treuting, professor of Public Health, Tulane University. Mrs. Sam Levy was re-elected president, Mrs. M. C. Wiginton, second vice-president, Miss Marian Souza, secretary, and Mr. Ira McGehee, treasurer. The Convention decided to hold its meeting at the same time next year in Alexandria.

Your writer should call attention to the fact that only two members of the Rural and Urban Health Committee of the State Society were present at this meeting: the same two members who attended last years' meeting. Four of the other members wrote that they were unable to attend and the other two did not answer the correspondence. The president and the secretary of

the State Medical Society were also unable to attend. It is desired to call your attention to the fact that the State Medical Society was instrumental in helping to organize the Health Council five years ago. Your writer was its first vice-president and its second president. There are some 75 agencies which belong to the Health Council, and have members who are taking an active part. I believe the members of the State Medical Society, its officers, and its Rural and Urban Health Committee should take a more active part.

Any socialistic tendencies which turn up in this meeting should be combatted or met by those who are strongly against socialism. In the writer's opinion, unless this is done, whatever trends the Council takes, can not be off-set by the two members who are usually present.

J. P. Sanders, M. D., Chairman,
Committee on Rural and Urban Health

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REPORT OF DELEGATES INTERIM MEETING—AMERICAN MEDICAL ASSOCIATION

Denver, Colo.—Dec. 2-5, 1952

The House of Delegates convened promptly at 10 o'clock on Tuesday morning, December 2, 1952, with Speaker of the House, James R. Reuling, presiding.

The two delegates from Louisiana were among the 177 answering the initial roll call. Out of a total of 191, there were 185 delegates seated.

Dr. J. Q. Graves was a member of the Blood Bank Committee and also a member of the Council on Medical Service.

Dr. Val H. Fuchs was appointed to the Committee on Hygiene and Public Health.

Dr. John Maston Travis of Jacksonville, Texas, was the recipient of the General Practitioner Award.

The delegates were instructed to notify their society that when they wish to present resolutions before the House of Delegates, the Central Office will supply the forms, eight in number, on which the resolutions can be written.

Speaker Reuling suggested that applicants for membership in parish medical societies should be required to take an examination on Medical Ethics. If he errs once against these ethics he should be reprimanded, but if he errs twice he should be expelled.

For the first time in 15 years Past-President E. L. Henderson, due to illness, was forced to miss an annual meeting, so a telegram was sent to him regretting his absence and hoping for a speedy recovery.

Chapters of the Student A. M. A. are present in 61 medical schools and from 8 to 10 more are expected by June 1953. Two representatives from this national group were extended non-voting privileges in the House.

Motion was made and passed that we recommend that the United States withdraw from the International Labor Organization and that a copy of this resolution be sent to all our Senators and Congressmen.

The Board of Trustees authorized contribution of $500,000.00 to the AMA Educational Fund.

Norman R. Booker, M. D., Vice-Chairman, National Rehabilitation Commission, the American Legion, addressed the House as the representative of Mr. Lewis Gough, National Commander. In his remarks he stated: "There seems to be agreement between the Legion and the medical profession and the hospital people that there is justification for certain types of cases which are non-service connected being treated by the Veterans Administration. These are the types of illnesses which make the patient a public charge under most circumstances. Specifically, I refer to the tubercular, the neuropsychiatric cases and the cases of chronic illness where over 90 days' hospitalization is required. The position of the American Legion is that if these categories of non-service-connected cases are accepted as under the present law, that we, the American Legion, stand willing and ready to join with the American Medical Association, American Hospital Association, American Dental Association and all others to prevent the non-service cases which we might term "chiselers" from ever receiving treatment by the Veterans Administration. The presence of such an individual who can afford to pay for his private medical care in a Veterans Administration bed means to us that he is depriving a worthy and qualified Veteran from receiving the care the Congress and the people of this country intend for him to have.

"Believing as we do the above principles, we think that the present law, P.L. 312, should stand without the dangerous procedure of tampering with it in the Congress. By the same token, we believe that the enforcement of the present law by administrative means should be reconsidered with every American demanding its fair enforcement. The Legion has already helped accomplish some administrative changes."

The Secretary reported that: "The Membership records, to September 5, 1952 show that approximately 110,600 members have paid 1952 American Medical Association dues; about 20,000 are listed as active members but owe payment of dues for 1952 or a previous year; 2,923 are Associate Members; 6,873 are Active Members exempted from the payment of American Medical Association dues for one of the following reasons: Financial hardship;

lems. In the interest of the public and the armed postgraduate training within five years of graduation from medical school; retirement from active practice; attainment of age 70 before January 1, 1952, and active duty with the armed forces. In addition there are approximately 270 Affiliate Members, 140 Honorary Members, and 8,900 Service Members. The last-named group includes full time, career officers in the United States Army, United States Navy, United States Air Force, Veterans Administration, Public Health Service, and Indian Service.

"During 1952, 6,380 payments were received to cover 1951 dues, and 1,334 payments to cover 1950 dues. In almost every state, there are still a number of physicians being carried on the roster of the American Medical Association as active members but from whom a payment of 1952 dues, or a previous year's dues, has not been received. Some of these physicians were exempted from the payment of 1951 dues and are now being reported by the constituent associations as exempt for the current year; others are no longer active members; the remainder are being notified that they are delinquent in the payment of dues and that they will be dropped from the membership roster."

The Board of Trustees reported: FIRST WORLD CONFERENCE ON MEDICAL EDUCATION. — Under the sponsorship of the World Medical Association, the first World Conference on Medical Education will be held in London, England, Aug. 14-29, 1953.

"WASHINGTON PROPERTY.—A close watch is being kept on property available in Washington, D. C., with the idea of securing a suitable site for a permanent home for the Washington Office. The Board of Trustees will make a report to the House of Delegates as soon as property can be found which it would be advantageous for the Association to purchase.

"Perhaps a few figures concerning the amount of work necessary in the compilation of THE JOURNAL may be of interest. For example, the number of man hours expended in the printing shop alone each year is 251,000. For one year there are required 4,370 tons of paper. Paper alone costs $761,000; ink $44,000, and wages in the printing department, exclusive of the editorial department, total $596,000.

"NEW DIRECTOR.—After having served as Deputy Director for three and one-half years, Dr. Frank E. Wilson became Director of the Washington Office, September 1, 1952, succeeding Dr. Joseph S. Lawrence, who had held the position eight years before retiring. A native of Tennessee, Dr. Wilson was graduated from the University of Tennessee College of Medicine in 1933 and received his Master of Public Health degree in 1947 from the University of North Carolina. He practiced medicine in Mooresville, N. C., from 1935 to 1938. A diplomate of the American Board of Preventive Medicine and Public Health, Dr. Wilson served as a local health officer in North Carolina from 1939 to 1941. As a reserve officer he was called to active duty in the Army and served from 1941 to 1946. He is now a colonel in the Medical Corps Reserve and, besides commanding a Hospital Center, is a member of the Editorial Advisory Board of the MILITARY SURGEON. From 1946 to 1949 Dr. Wilson was National Medical Director of the American Red Cross. In addition to serving as Director of the Washington Office, Dr. Wilson is currently secretary of the American Medical Association Committee on Blood Banks."

The House went on record as opposing scientific experiments on felons in prison, especially murderers, rapists, and others committing heinous crimes, in the hope that their sentences may be commuted or shortened.

Local hospitals can determine what are unnecessary compulsory meetings. Some hospitals have been suggesting that doctors give a percentage of their fees on hospital patients to the hospitals, but this is forbidden as it constitutes fee splitting.

In some sections of the country doctors practicing at a distance from clinics have been referring patients to these clinics and getting rebates. This practice is condemned in no uncertain terms. In many cases, these doctors live miles away from the clinic but act as referring agents.

The Board of Trustees was asked to study the Malpractice Liability Insurance situation and report at the next meeting.

"REPORT OF THE COUNCIL ON NATIONAL EMERGENCY MEDICAL SERVICE."—From October 1, 1951 to September 30, 1952, the period covered by this report, the activities of the Council on National Emergency Medical Service, with respect to medical civil defense planning and the procurement and utilization of physicians by the armed services, have been both extensive and urgent. The continuation of the Korean conflict, plus the ever-present possibility of similar episodes in the other parts of the world, has necessitated the perpetuation of the quasi-wartime status which has existed in the United States since June, 1950. The resulting necessity for defensive planning by responsible government agencies in a local peacetime atmosphere has received an apathetic reception. The Council, however, has labored to cooperate fully with those officially responsible and at the same time to safeguard the interests of the public and the medical profession by assisting in the formulation of equitable laws and regulations and the education of physicians concerning their military and civil defense obligations.

"Military and Selective Service Activities: The existence of the 'Doctor Draft Law' is the principal means of procuring physicians for the armed services and the inequities which are implicit in its administration have been the source of some of the Council's most serious and compelling prob-

services, in September, 1950, the Council supported legislation authorizing the drafting of physicians as the most equitable means of meeting the increased military need for medical officers and has continued to work closely with the three surgeons general, the Selective Service System and its National Advisory Committee, and the Department of Defense in its administration.

"On behalf of the profession, the Council has attempted since that time (1) to facilitate and increase the efficiency of the administration of the 'Doctor Draft Law'; (2) to effect a timely and orderly system of recall and rotation of medical reservists; (3) to prevent a repetition of the medical overstaffing which occurred in certain areas during World War II; and (4) to curtail the utilization of medical personnel on nonprofessional assignments. It is the sincere belief of the Council that it has been instrumental in attaining a measure of success in its efforts to achieve these four goals.

" 'Adjustment Pay' for Physicians in the Armed Forces: The necessity for continuing the additional $100 per month for physicians and dentists in the armed services, which was due to expire in July, 1952, was reemphasized by the Council following its spring meeting. The testimony presented by the Association in May to the Senate Armed Services Committee contributed to the effective passage of legislation, Public Law 410, 82d Congress, approved June 25, 1952, which extended this benefit until July 1, 1953. At that time the entire matter will again have to be explored by the Congress."

The Council on Medical Education and Hospitals reported that "While there were over 15,000 residents serving in hospitals in this country last year, there were over 20,000 positions available, with the result that slightly less than *77% of residenceies* were filled. Considering first year appointments only, there were approximately 6,400 residents on duty, representing 68% of positions available.

"From Oct. 1, 1951 to Sept. 30, 1952 the number of registered hospitals increased from 6,549 to 6,717. In this period 388 new institutions were registered, whereas 220 were closed or transferred to the unclassified file. The annual admissions totaled 18,237,118, the hospital births 2,999,371, and the average daily census 1,293,643. Thus in the 12 months' period covered by the Council's report the hospitals registered by the American Medical Association gave a total of 472,183,345 days of patient care. The general hospitals, reporting 17,065,821 admissions and 2,923,509 births, offered the greatest volume of service, yet the psychiatric institutions, with only 307,010 admissions, had an average daily census of 697,521, which is greater than the combined patient load in all other registered hospitals.

"For several years the Council on Medical Education and Hospitals has collected information on the development of general practice sections in hospitals. These studies are being continued in cooperation with the American Academy of General Practice and will serve to indicate the facilities and privileges available to qualified general practitioners. A report on this subject was published in the Hospital Number of THE JOURNAL, May 10, 1952."

The Report of the Special Committee on Federal Medical Services was a voluminous one, consisting of 152 pages. There was very heated discussion on the recommendations, which were:

"*Part One*—Your Committee recommends with respect to the provision of medical care and hospitalization benefits for veterans in Veterans Administration and other federal hospitals that new legislation be enacted limiting such care to the following two categories:

"(a) Veterans with peacetime or wartime service whose disabilities or diseases are service-incurred or aggravated; and

"(b) Within the limits of existing facilities to veterans with wartime service suffering from tuberculosis or psychiatric or neurological disorders of non-service-connected origin, who are unable to defray the expenses of necessary hospitalization.

"Your Committee recommends that the provision of medical care and hospitalization in Veterans Administration hospitals for the remaining groups of veterans with non-service-connected disabilities be discontinued and that the responsibility for the care of such veterans revert to the individual and the community where it rightfully belongs.

"The recommendation of the Committee with respect to the treatment of veterans with tuberculosis and neurophychiatric disorders of non-service origin in federal hospitals is believed necessary at this time because of the inadequacy of local facilities designed to provide treatment for all such cases. It is the feeling of the Committee, however, that the entire question of whether the care of these patients is a local or a federal responsibility must be reanalyzed by the Congress. The rapidly expanding veteran population and the need for facilities for the remainder of our citizens afflicted with these diseases suggests that community facilities must be developed under state or local administration for the benefit of all. Preferential treatment for veterans with these non-service-connected disabilities cannot be continued indefinitely, in view of its detrimental effect on the health and the economy of the entire nation.

"*Part Two*—Your Committee recommends that the Congress study and determine whether the provision of medical care and hospitalization benefits for dependents of service personnel is a proper and desirable emolument of military service. In the opinion of the Committee such a study should also determine the percentage of time spent by medical and allied health personnel in uniform in

the treatment of dependents of service personnel.

"It is recommended that the establishment of a definitive policy by the American Medical Association on the subject of dependent medical care be deferred until such time as these studies are completed.

"Pending a report on such a study the American Medical Association will formulate its policy when and if proposals are presented affecting the scope and extent of medical care of dependents of service personnel.

"*Part Three*—Your Committee heartily endorses the purpose of the program of transferring seriously disabled service personnel from service hospitals to Veterans Administration installations. It is the recommendation of the Committee that it be continued and that every effort be made to accomplish maximum implementation.

"*General Recommendations*—Your Committee would like to restate and reemphasize certain of the recommendations which were presented by the American Medical Association on March 3, 1952 before the Senate Committee on Expenditures in the Executive Departments relative to S. 1140, 82d Congress. These recommendations suggest that the most effective way to institute governmental economy in the use of funds and medical manpower is:

"(a) To obtain a clear congressional definition of the extent of the government's responsibility for furnishing medical care with particular reference to the treatment of veterans with non-service-connected disabilities and the dependents of service personnel; and

"(b) To establish a federal board to allocate the number of beds required by the several federal hospital services; to insure planning in the field of federal hospital construction and to determine the need for and location of proposed new federal hospitals in the United States."

A motion on these recommendations was made and passed that the A. M. A., A. D. A., A. H. A. and V. A. sit down and see if they cannot come to some agreement before any effort is made to change the law in Congress.

A very extensive report was made by the Committee on Blood Banks and our delegate, Dr. Graves, was thanked and the statement made appreciating his services and commending the excellent work and amount of time he gave to this committee. His term expired after serving five years on this committee.

"*Procurement of Blood for Defense and Civil Defense.*—As of September 28, 1952, since December 1, 1950, 3,407,193 pints of blood had been forwarded for defense and civil defense purposes. Of this amount 2,787,178 pints had been collected by Red Cross regional and defense centers and 620,015 pints by contracting independent blood banks.

"During the year 1952, nearly all of the immediate primary allocation of plasma to the Defense Department will have been reached and the allocations to civil defense will have started; civil defense will require 1,300,000 units of plasma in the current fiscal year. To get sufficient donors for this latter objective, all of the publicity media of the country have again joined up through the efforts of the Advertising Council, Inc. The Subcommittee on Blood, Office of Defense Mobilization, is guiding this and about September 1, issued a 'Publicity Manual' giving advice to be used in the donor campaign. Barring enemy attack or extension of our war activities it is estimated that the high level of blood procurement must be maintained throughout 1954 and possibly 1955. If fortuitous circumstances develop in that time, the end of high level blood procurement cannot now be forecast. The 1952 summer decline in donor procurement was not quite as great as anticipated.

"On November 15, 1952, blood for *defense* was being procured through 46 Red Cross centers, 15 Red Cross defense centers and 23 cooperative independent blood banks under contract, with contracts for six more in process (total 29)."

If there is mutual agreement between a County Medical Society and the Red Cross that a center should be discontinued, then some equitable understanding should be arrived at concerning the vested interest of the Red Cross.

Dr. G. D. Cummings, Chairman of the Subcommittee on Blood, Office of Defense Mobilization, made the following statement: "The Subcommittee on Blood, Office of Defense Mobilization, was established to facilitate meeting the mobilization needs of the Federal Government for blood and blood products without duplication or conflict of effort among the various Federal agencies involved, and without detriment or interference with the operation of civilian blood banks.

"*Supplementary Report of Committee on Blood Banks.*—As noted last June, further experiments to determine whether gamma globulin had protective value against the paralytic phase of poliomyelitis were carried out this past summer by Dr. William McD. Hammon and associates under grants from the National Foundation for Infantile Paralysis. Three preliminary reports of these studies were published in J. A. M. A. 150: No. 8; 739-760 (Oct. 25, 1952). It was demonstrated that the gamma globulin used, in the dosages employed, reduced significantly the number of cases of paralysis demonstrable in the treated group as compared with the untreated group in the three epidemic areas studied. It was shown that the most significant findings were confined to cases occurring from one to five weeks after the protective injection and that, hence, the relative passive immunity conferred was not of long duration.

"Numerous conferences through the summer

brought out the speculation that although this type of immunity is not the final answer to poliomyelitis, a very large public demand for its use might be anticipated in 1953 as the polio season got under way. The fact that sufficient gamma globulin to meet this demand cannot possibly be met in 1953 poses a problem of major proportions.

"A glance at the figures might be enlightening. It is estimated that the gamma globulin needed for the average dose used in the experiments (7 cc. of 16% solution), were it to be given annually only once to the 40,000,000 children under fifteen years of age, would require about 40,000,000 bleedings of whole blood per annum. Total bleedings for all purposes, defense and civilian, in 1953 will probably not exceed 6,500,000. No estimate of the potential need in the age group fifteen years and over is taken into account in the above figures. Actually, no such astronomical need can develop, but practical thinking will still suggest a very heavy demand even if its use be confined to the most serious epidemics of 1953.

"Fractionation capacity for gamma globulin in all plants is now being about one-third utilized. If totally used, probably less than 1,500,000 such doses could be produced.

"In view of the fact that the forseeable supply of gamma globulin in 1953 cannot possibly meet more than a fraction of the potential demand for that product, the American Medical Association urges understanding and willing cooperation with the allocating mechanism upon the part of physicians, health officers, pharmaceutical companies and pharmacists, to the end that the over-all interest and needs of the American public may not be undermined by the sapping away at local levels of this critical human resource."

On Tuesday night a nationwide hook-up on TV showed a Caesarian Section and on Thursday night a program was televised on heart, cancer and mental diseases under the title of "March of Medicine."

With one and one-half days left for registration, the total on Wednesday evening was 2,292 physicians and 2,910 guests.

Your President, Dr. William E. Barker, Jr., your Secretary, Dr. C. Grenes Cole, and the Chairman of the Council on Medical Service and Public Relations, Dr. W. Robyn Hardy, attended most of the sessions of the House. All were present at the Public Relations meeting the day preceding the opening of the Convention. A very excellent program was presented and some valuable information obtained.

Respectfully submitted
J. Q. GRAVES, M. D., Delegate
VAL H. FUCHS, M. D., Delegate

LOUISIANA STATE MEDICAL SOCIETY NEWS

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
East Baton Rouge	Second Wednesday of every month	Baton Rouge
Morehouse	Third Thursday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

LONGEVITY

In a Thanksgiving message, Dr. Louis H. Bauer, president of the American Medical Association, said that "the length of human life in the United States has doubled—for Americans as a whole since our nation was founded and for the industrial population within just the past 75 years."

DOCTORS' INCOMES AT ALL-TIME HIGH

The average physician in private practice had a 1951 net income, before taxes, of $15,262—a rise of 35 per cent in four years.

This is revealed in the December issue of *Medical Economics*, national business magazine for doctors. The magazine is publishing the results of a nationwide survey of medical practice, based on a questionnaire sent to each of its 134,000 M.D.-readers.

According to the survey, the average U. S. doctor is in a better financial position now than at any time in the past. But physicians' incomes are found to vary widely when regional and other breakdowns are made.

NEWS ITEM

At a recent meeting of the Central Association of Obstetrics and Gynecology in Memphis, the following doctors were elected as members: Dr. Dan Beacham, New Orleans, Drs. James Farris and Cary Daugherty, Baton Rouge.

ONE-YEAR RESIDENCIES IN EXPERIMENTAL MEDICINE

The Medical Division of the Oak Ridge Institute of Nuclear Studies is inviting applications for one-year residencies in experimental medicine. Two

appointments will be made annually beginning in 1953.

The Division operates under contract with the U. S. Atomic Energy Commission a 30-bed research hospital and extensive laboratories for correlation of basic scientific studies with clinical investigation. An active research program of experimental cancer therapy with radioisotopes is in progress under the direction of a full-time staff and consultants from participating medical schools. Research in progress offers opportunities for metabolic studies with isotopes and for investigations in the field of hematology.

The residencies are approved for one year of basic credit in Internal Medicine by the American Medical Association and the American Board of Internal Medicine. Stipends are $2,000 plus $4 a day subsistence in lieu of maintenance.

Additional information may be obtained from Marshall Brucer, M. D., Chairman, Medical Division. Oak Ridge Institute of Nuclear Studies, Oak Ridge, Tennessee.

PAN-PACIFIC SURGICAL ASSOCIATION MEETS IN NOVEMBER, 1954

The executive office of the Pan-Pacific Surgical Association announces that the Sixth Pan-Pacific Surgical Congress will be held in Honolulu in November 1954.

Included in the scientific program will be sessions in all divisions of surgery and related fields, with papers presented by topflight surgeons from the Pacific Area countries.

For further information concerning the Sixth Congress or membership in the Association, doctors may write to the Pan-Pacific Surgical Association, Suite 7, Young Building, Honolulu, Hawaii.

AWARD FOR OUTSTANDING RESEARCH IN THE FIELD OF INFERTILITY

The American Society for the Study of Sterility announces the opening of the 1953 contest for the most outstanding contribution to the subject of infertility and sterility. The winner will receive a cash award of one thousand dollars, and the essay will appear on the program of the 1953 meeting of the Society. Essays submitted in this competition must be received not later than March 1, 1953. For full particulars concerning requirements of this competition, address The American Society for the Study of Sterility, c/o Dr. Herbert H. Thomas, 920 South 19th Street, Birmingham, Alabama.

The author should append on a separate sheet of paper a short biographical sketch of himself and include a photograph to be used in the necessary publicity should he be the winner of the award.

FAMILY DOCTORS SCORE ECONOMIC GAINS

The financial edge that medical specialists have long held over family doctors is diminishing fast. Less than ten years ago, the income of the average specialist was about twice that of the average general practitioner; nowadays, it's only aout 20 per cent higher.

This is revealed in the November issue of *Medical Economics*, national business magazine for physicians. The magazine is publishing the results of a nationwide survey of medical practice, based on a questionnaire sent to each of its 134,000 M.D.-readers.

INTERNATIONAL COLLEGE OF SURGEONS TO HOLD QUALIFYING EXAMINATIONS

Qualifying examinations for Fellowship in the United States Section of the International College of Surgeons will be held on the following dates in 1953: February 2 and 3, May 4 and 5, August 10 and 11, and November 2 and 3. The examinations will be given at the Cook County Graduate School of Medicine, and the Cook County Hospital. Applicants are requested to address communications as follows:

Harry A. Oberhelman, M. D., Secretary
Qualification and Examination Council
1516 Lake Shore Drive
Chicago 10, Illinois

YELLOW FEVER VACCINE AVAILABLE IN CLINICS

Yellow fever vaccine, heretofore produced exclusively by the Public Health Service of the Federal Security Agency, will be manufactured in the future by a nationally known pharmaceutical firm, it was announced recently by Surgeon General Leonard A. Scheele of the Public Health Service.

The announcement was made jointly with the National Drug Company of Philadelphia and the Armed Services Medical Procurement Agency.

Withdrawal of the Government from yellow fever vaccine production is in accord with Public Health Service policy of turning over to the pharmaceutical industry the manufacture of biological products once large-scale production becomes feasible. This step was taken following several conferences with many of the major pharmaceutical houses in the United States.

Public Health Service and military officials praised the National Drug Company for its contribution to the national interest in taking over production of yellow fever vaccine, most of which is supplied to the armed services to meet their needs.

The Surgeon General pointed out that manufacture of the vaccine by the National Drug Company does not alter the regulations governing distribution. All eligible consumers now receiving the vaccine may continue to do so. Clinics issuing yellow fever vaccine certificates are designated by the Public Health Service in accord with the international sanitary regulations of the World Health Organization. Vaccination certificates must be obtained by travelers from a designated clinic in order to be valid for international travel.

WOMAN'S AUXILIARY TO THE LOUISIANA STATE MEDICAL SOCIETY

ORLEANS PARISH

December 31, 1952

The following is a complete list of the officers and committee chairmen of the Women's Auxiliary to the Orleans Parish Medical Society for the year 1953:

President, Mrs. Edwin R. Guidry.

President-elect, Mrs. Lloyd Kuhn.

Vice-Presidents: 1st, Mrs. Robert Dody Kelleher; 2nd, Mrs. Daniel J. Murphy; 3rd, Mrs. Robert Rougelot; 4th, Mrs. Hyder F. Brewster.

Recording Secretary, Mrs. Nathan R. Polmer.

Corresponding Secretary, Mrs. Edward W. Nelson.

Publicity, Mrs. George M. Haik.

Treasurer, Mrs. John W. Atkinson.

Historian, Mrs. John J. Archinard.

Parliamentarian, Mrs. Albert F. Habeeb.

State President, Mrs. Edwin A. Socola.

RAPIDES PARISH

Members of the Woman's Auxiliary to the Rapides Parish Medical Society honored the student nurses at the Baptist Hospital and members of Future Nurses Clubs at Bolton and Providence High Schools at a lovely fall tea in the home of Mrs. O. B. Owens.

Guest speaker for the day was Dr. Eustis Wilson, who had as his topic, "As the Doctor and Patient See the Nurse."

The auxiliary is organizing future nurses clubs throughout the state, as a phase of nurse recruitment, which is one of its major projects this year. The purpose of the clubs is to promote better understanding of the nursing profession. A club has already been organized at Bolton High School and plans are underway to formulate similar groups at Providence Central High and Pineville High School.

STATE PRESIDENT HONORED AT TEA

The Woman's Auxiliary to the Shreveport Medical Society entertained with a Christmas tea December 10, honoring Mrs. R. E. Strain, state president, in the home of Mrs. Peachy R. Gilmer. Members and guests were received by Mrs. Gilmer, Mrs. Strain and Mrs. J. E. Knighton, Jr., second vice-president of the Shreveport Auxiliary, and invited into the reception rooms where the Yuletide motif was employed.

At one end of the mantel in the living room was a white madonna holding a striking arrangement of gold magnolia leaves and small white angels touched with gold, and at the opposite end white tapers burned in brass candlesticks in front of which stood two gold angels. Throughout the room white sasanquas and gold and silver magnolia leaves were used.

On the table in the den was a large brass cornucopia spilling gold and green leaves and gold baubles. Over the mantel hung a wreath of golden wheat and fruit.

In the dining room, the credenza held a large Victorian dome filled with orchid and pink Christmas baubles. On either side were bowls of silver leaves. Pink shells and pink sasanquas placed at vantage points complemented the decor of the room. The serving table was centered with a handsome arrangement of pink gladioli and pink tapers touched with silver in a branched silver candelabrum which stood on an antique silver rimmed reflector. Coffee was served from a silver service placed at one end of the table. Mrs. C. E. Boyd and Mrs. Arthur A. Herold alternated in serving.

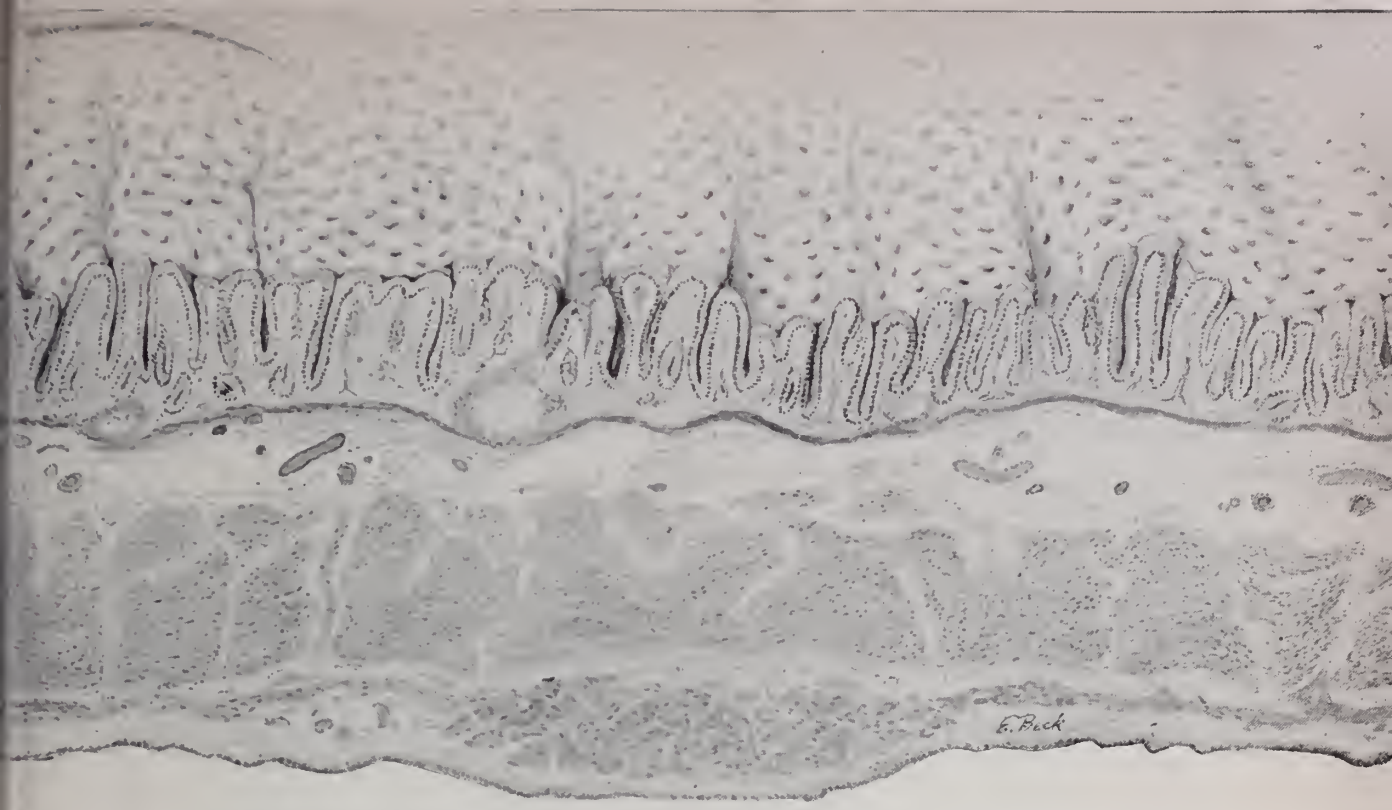
A large number of guests called during the afternoon.

BOOK REVIEWS

Cellular Changes with Age; by Warren Andrew. Springfield, Charles C. Thomas, 1952. pp. 75. illus. Price $2.50.

In this small monograph, one of a series in the American Lectures in Anatomy, the author wisely treats of a frequently neglected point of view in gerontology, namely the effect of aging of the organism as a whole on the cells of different systems. Aging is not considered to be the result of degenerative changes in any one type of cell or group of cells but as a total change in the organism which has reflective effects on specific cells or systems. Findings of gerontological interest in the field of plant life and in the lower animal organisms are briefly summarized in the first chapters and a detailed consideration of cellular changes in the cells of the higher mammals and man is made in one long chapter. The cell groups are classified and considered following Cowdry's earlier classification which takes into account degree of differentiation and regenerative abilities. It is pointed out that the relatively stable nervous tissue shows definite signs of aging whereas muscle tissue does not show very much indication of aging; liver cells and endocrine cells usually show consistent changes with aging as do bone and cartilage and epidermis; whereas the kidney shows very few signs of aging. There is no speculation by the author as to the mechanisms involved in cellular signs of aging except in a short concluding chapter in which he considers the general problems of cellular metabolism and formation of aging "substances" as recently postulated by Lansing in certain primitive animal organisms.

L. M. N. Bach, Ph.D.



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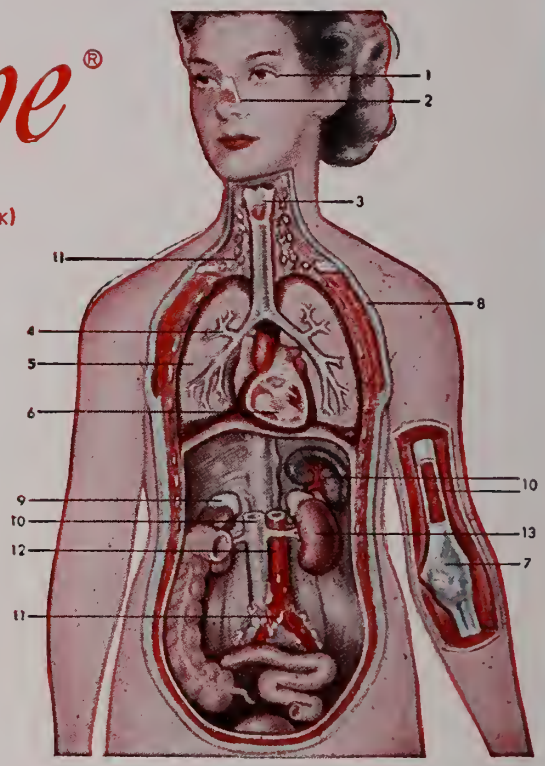

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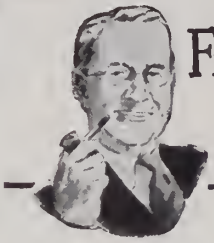

From where I sit *by* Joe Marsh

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You know where Hammy Jackson lives—on that small dead-end street off Maple Avenue near the municipal library? Well, about a month ago, the town finally put up a traffic sign on the corner there saying: "*No thoroughfare . . . Dead End.*"

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From where I sit, these people who bother Hammy on his one-way street are the same as those who automatically ignore a Wet Paint sign and touch their finger on a freshly painted surface. But you can't change human nature. People like to think for themselves and to choose for themselves. Whether it be following a chosen profession or a little thing like a choice of a beverage at mealtime, let's not feel we're obliged to "point the way" for the other fellow.

Joe Marsh

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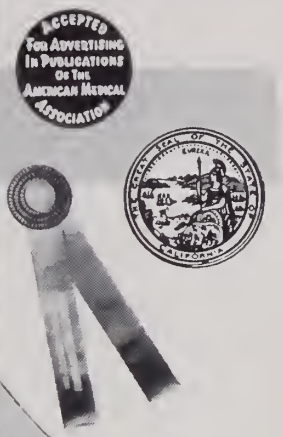

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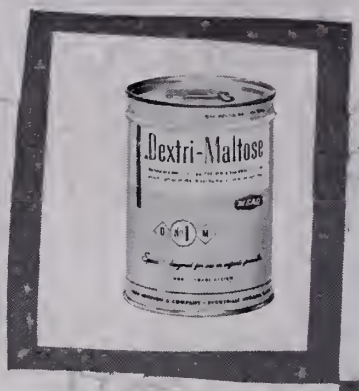

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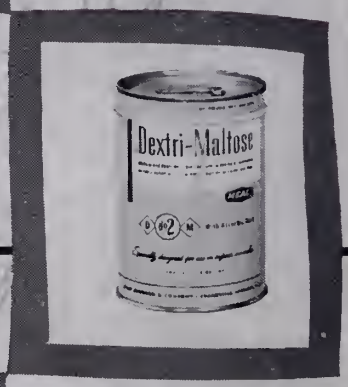

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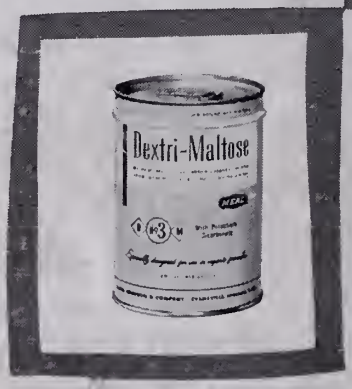

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JOURNAL of the

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FEBRUARY, 1953

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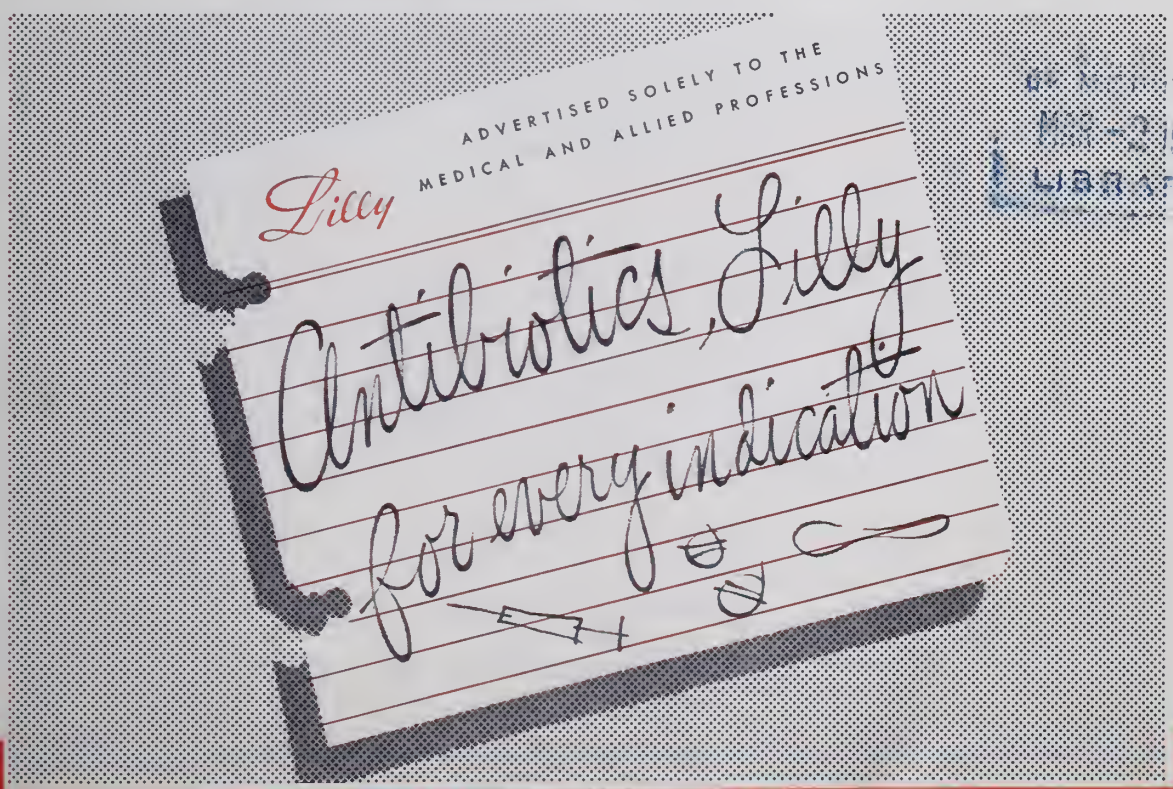

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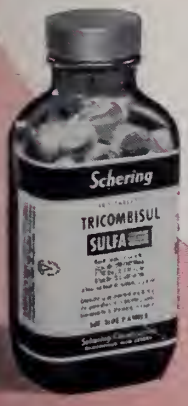

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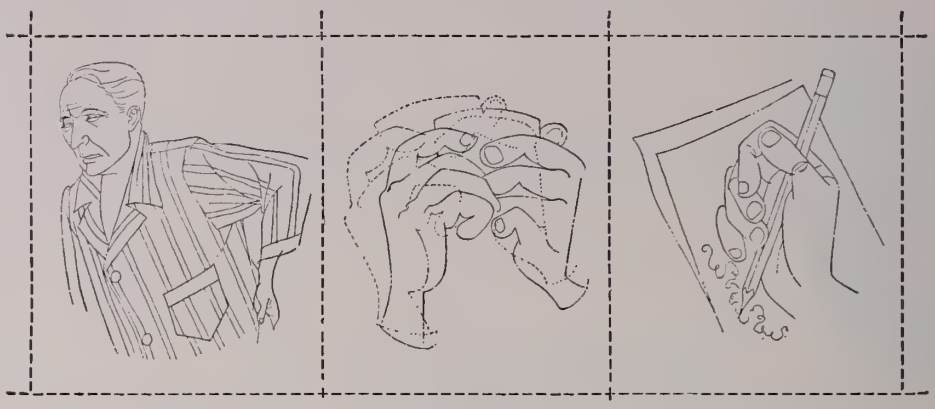

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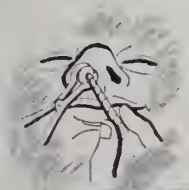

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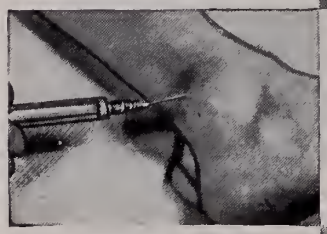

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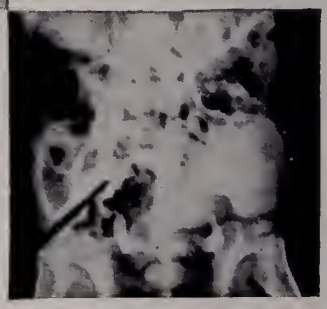

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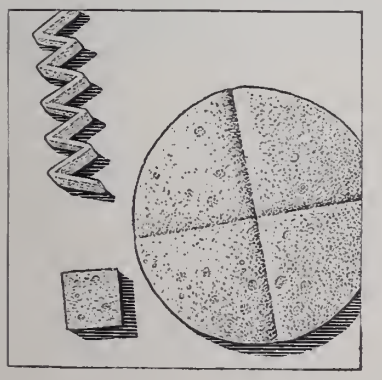

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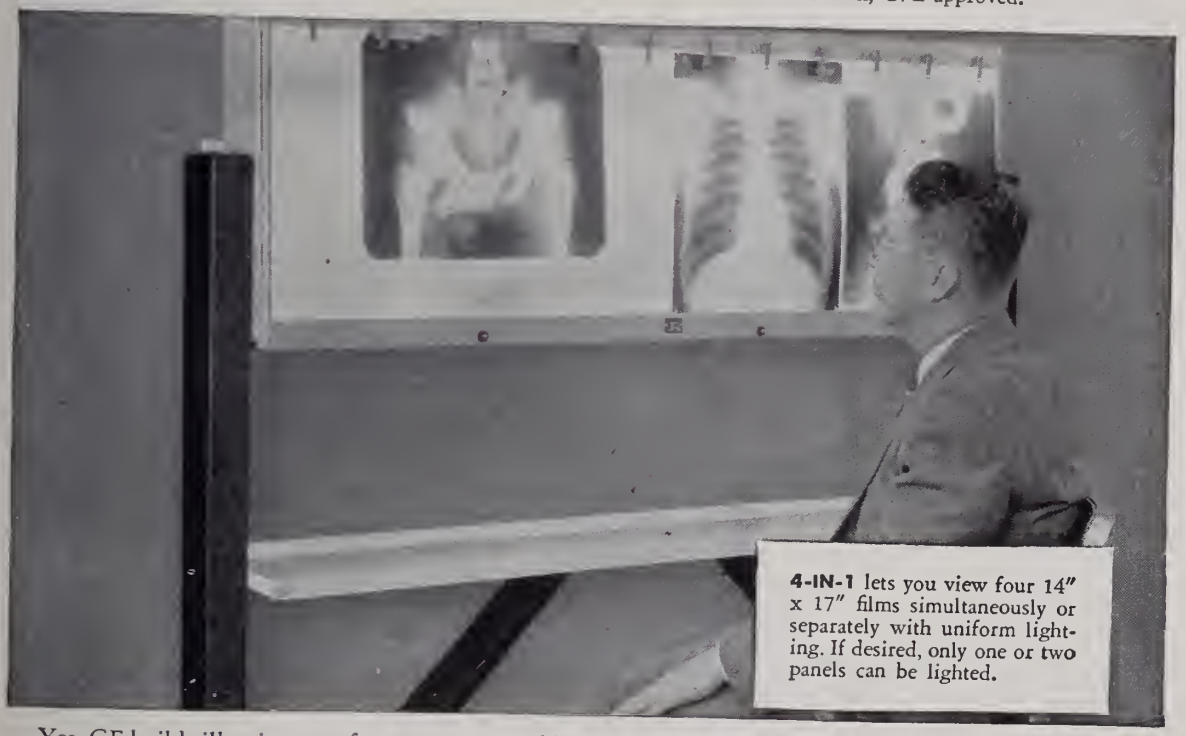

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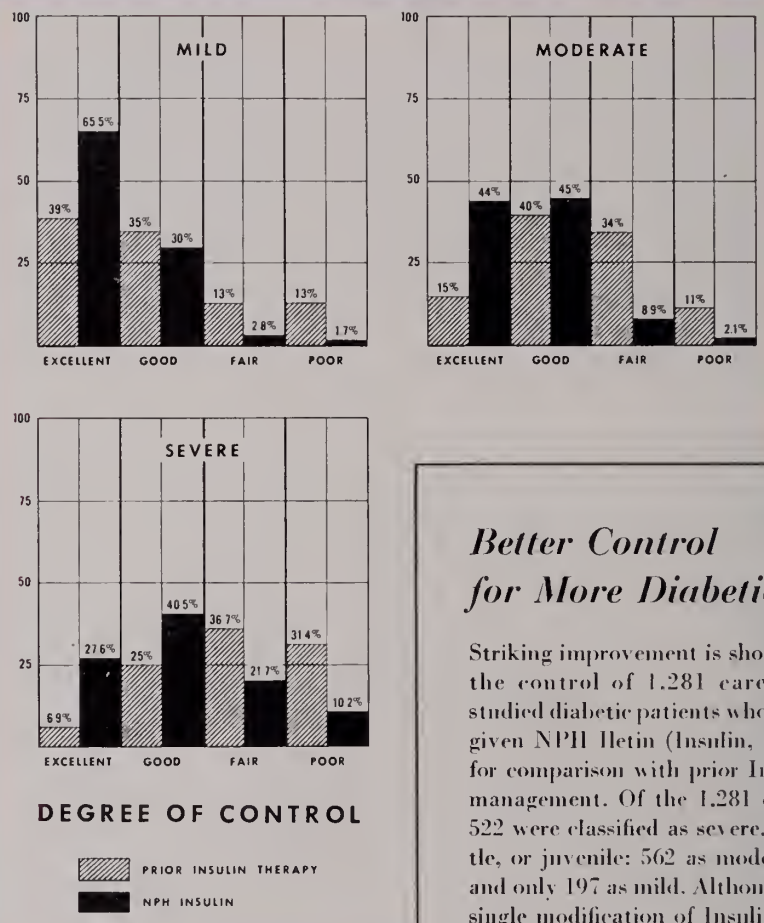

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FEBRUARY, 1953

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SPINAL HEADACHE*

LEO V. HAND, M. D.
BOSTON, MASSACHUSETTS

Headache following anesthesia, while usually not a serious complication, certainly is annoying and disturbing to both patient and anesthesiologist. Headaches do occur following general anesthesia as well as spinal anesthesia. The headache folowing spinal anesthesia, or even simple lumbar puncture, usually is bitemporal, bifrontal or occipital, either brought on, aggravated, or relieved by changes in position on the part of the patient.

Interest in this complication seems to run in decade cycles. In 1902, Secard[17] reported that postpuncture headache was due to cerebral spinal fluid leakage at the puncture site. In 1923, Antoni[1] suggested the use of smaller needles to decrease the incidence and degree of leakage. In 1926, H. Green[9] reported on the histology of the dural fibers and the influence of puncture trauma on headache. Within the past five years, particularly since the work of the Swedish author Thorsen,[19] there have appeared in the medical literature articles by Graf,[7] Hebert,[12] Haraldson,[11] B. Greene,[8] Whitacre,[21] Nicholson,[14] Shaw,[18] and many others, as to the etiology, prevention and treatment of this complication, postspinal or postlumbar puncture headache.

The Swedish authors, Thorsen[19] and Haraldson,[11] call attention to two distinct types of headaches. The first type and less frequent, 20 per cent of their cases, is headache caused by a marked increase in cerebral spinal fluid pressure. The second and more common, 80 per cent in their series, is the result of a marked decrease in cerebral spinal fluid pressure. These authors describe the headache due to marked increase in cerebral spinal fluid pressure as splitting in nature, readily influenced by the ordinary analgesics and definitely not influenced by positional changes on the part of the patient. Again, the second and more common type of headache, that associated with a marked decrease in spinal fluid pressure, is described as dragging and dull in nature, markedly influenced by positional changes; that is, aggravated by rising, diminished or relieved by the head-down position and responding very poorly to the ordinary analgesics. This second type, the type of extreme low pressure, is universally recognized and accepted by all authors. The first type, the type of increased pressure, is debatable and questioned by some authors.

Both types may best be reviewed as to etiology under five general headings or theories:

1. Purely mechanical.
II. Chemical, that is chemotoxic.
III. Inflammatory (traumatic).
IV. Psychic suggestion
V. Systemically disturbed fluid balance.

In all five theories, we have overlapping and occasionally do have contradictions.

I. MECHANICAL THEORY

In 1929, Evans postulated the theory of spinal fluid leak on a purely mechanical basis. It is known that the dural and subarachnoid tissues have very little elastic tissue component. In the positioning of a patient for lumbar puncture, there is a slid-

*Presented at the Fifteenth Annual Meeting of the New Orleans Graduate Medical Assembly, March 1952.

ing effect of dura over arachnoid tissues. Return to normal positioning reverses this sliding effect with the resultant sealing of the double puncture hole. In patients with low pressures or relaxed tissues, this sliding effect does not take place, and a fistula between the dura and arachnoid tissues persists, with leakage of fluid into the epidural space. Most authors feel that this is but a part of the spinal headache picture.

II. CHEMICAL THEORY

Some authors believe that there may be a direct chemical effect not only on the nerves but also on the vascular structures responsible for fluid secretion, through the choroid plexus in the ventricles; or fluid excretion by way of the arachnoid villi or pacchionian bodies. That the agent may influence directly as high as the choroid plexus is postulated from Novak's experiment with animals. He completely transected the spinal cord and enveloping tissues so that there was no direct communication between the severed sections. He then injected an anesthetic drug into the subarachnoid space of the distal segment and recovered a qualitative specimen of the drug in the spinal fluid within the ventricles. Foldes[6] is about to publish work on controlled decreases in cerebral spinal fluid pressure. He feels the causes of spinal headache are more than the local mechanical leakage of spinal fluid plus dehydration. His findings suggest important factors of chemical equilibrium within the subarachnoid space; that is a disturbance in cerebral spinal fluid secretions; or absorption of the cerebral spinal fluid.

This theory of chemotoxic effects would conveniently explain the instances of both high and low pressure types of headache. The action of the anesthetic agent might result in choroid plexus hyperemia and an increase in its secretory activity, in patients with high pressure headaches, or the opposite may occur; hyperemia and secondary edema with obstruction may occur, resulting in a decrease in secretory activity; this combined with fluid leakage at the puncture site would cause the low pressure type of headache. Thus, we have here contradiction to explain one's preference of theory.

III. INFLAMMATORY OR TRAUMATIC THEORY

Most authors accept this theory as one cause for low pressure headache. Haraldson[11] claims that blood, trauma or inflammation resulting from repeated puncture may cause a definite increase in spinal fluid pressure due to inflammatory reactions within the subarachnoid space. Work by Arrowood and Foldes[2] in their differential spinal investigation demonstrated that pressure increases over 300 mm. of mercury do not result in headache. As to the influence of trauma and blood, an amusing and possibly pertinent observation by one of our "elder" neurologists in Boston states that the absence of headache occasionally noted following a traumatic puncture may be due to the sealing off effect of the blood at the point of puncture. As opposed to this postulation, Hebert[12] shows a definite per cent of increase in postspinal puncture headache following multiple traumatic punctures to the patient.

IV. PSYCHIC SUGGESTION

Fear of headache, past experiences or unconfirmed reports of friends or relatives may play an important part in the incidence of postspinal headache. Interesting enough, the higher the I.Q. of the particular patient the more frequent the headache. The emotional tension present in our mode of living plus subconscious fear is an influencing factor. Again, the frequent ill-advised warnings relative to headache also play an important part in suggestion.

Add to psychic suggestion, the physical discomfort of the extreme head-down position or prolonged hyperextension of the patient's neck, frequently ordered by many doctors, and we have a patient developing a severe headache. This neck strain may act as a continuous reminder of headache possibilities. Certainly, a small pillow is more comfortable to most patients than exaggerated hyperextension of the neck. The third type of suggestion is the patient association, as reported by Allan Conway[1] in discussing Hebert's[12] paper in Atlantic City in 1949. To quote: "We found that when one patient had a headache in a big ward several more patients would have it in the next couple of weeks." Conway cited his

army experience of a chronic complainer with headache upsetting his adjacent bedmates. These bedmates previously had spinal anesthesia without headache and subsequently had five and seven spinal anesthesias respectively without headache.

V. SYSTEMIC FLUID IMBALANCE

This theory is one of disturbed fluid balance due to excessive leakage at the puncture site and a systemic decreased hydration associated with electrolyte imbalance. The factor of local leakage had been long recognized by Secard[17] in 1902, Antoni[1] in 1923, H. Greene,[9] in 1926, and others. Greene demonstrated that the majority of the dural fibers run longitudinally. A puncture at right angle to these fibers, that is, a cross cut, by the average needle results in a greater rent or tear, and the delayed healing of puncture hole. Thorsen,[19] in 1947, definitely demonstrated this leakage with the injection of lampblack into thesubarachnoid space and recovering the colored fluid in epidural pockets, both at postmortem examinations and in patients undergoing laminectomies.

The occurence of systemic decreased hydration has been recognized by the neurosurgeons since the report of Weed,[20] in 1919, and Cushing,[5] in 1920. They reported that cerebral spinal fluid pressures can be increased by hypotonic solutions given either intravenously or by mouth and that the pressure and volume can be decreased by use of hypertonic solutions. Wallace Shaw[18] in 1951, stated that decreased fluid intake plus electrolyte imbalance, particularly salt loss are important factors in spinal headache. The question of postoperative salt requirements at the present time is debatable. Moore states that salt is not needed for the first forty-eight hours unless there is excessive gastric drainage with chloride loss.

Most authors now feel that the combination of local fluid leakage plus systemic decreased hydration result in a state of cerebrospinal fluid hypotension. This hypotension results in: (1) secondary venous engorgement within the cranium with stretching of the vessels; (2) loss of the cushioning effect of cerebrospinal fluid on meninges and nerve roots; (3) a stretching of nerves within the cranium. All three conditions individually or combined may result in headache.

While the theories of causation are of interest to the anesthesiologist; to the patient the best therapy is prevention. All authors quote percentage ranges of from 6 to 20 per cent decrease in the occurence of headache following their recommendations for prevention. All recommendations can be summarized as follows: In the hypertonic patient or the patient with increased pressure, avoid trauma or inflammation. In the more commonly accepted type, that is, 80 or 90 per cent of the patients, with reduced or very low pressure, lessen leakage and increase systemic hydration.

Recommendations of many authors to lessen this local leakage of spinal fluid can best be adhered to by observing the following three precautions. The rent in the dura should be as small as possible. The subject should remain completely immobile during the puncture attempt so as not to enlarge the hole. There should be only one hole in the dura. H. Greene,[9] in 1926, recommended bevel penetration of the dura parallel to the longitudinal fibers. He also modified the routine spinal needles to a 90 degree angle with a sharp point and rounded lip of the bevel; in order to nick with the tip of the needle and spread these fibers with the remainder of the blunted bevel. Since Antoni's[1] recommendation in 1923, the trend has gradually been toward smaller and smaller gauge needles. At the present time B. Greene,[8] in 1949, reports on the use of 24 and 26 gauge needles with marked reduction in the incidence of spinal headache from 6 per cent to 0.4 per cent. One drawback to the use of a needle with such a fine caliber is, due to the extreme slow fluid flow, occasionally one cannot be certain the tip of the needle is within the subarachnoid space. This may result in a higher incidence of a poor to no spinal anesthesia. Another danger with the use of an extremely fine needle is needle trauma or needle breakage Needles of this extreme fine caliber require an ex-

tradural guide for better control or protection. Another drawback is that there is always the danger of introduction of needle through and beyond the subarachnoid space into the vascular plexuses located along the anterior wall of the spinal canal.

Whitacre,[21] in 1950 and 1951, reported the use of a 20 gauge pencil point solid tip needle with the hole on the side of the needle 2 mm. proximal to the solid tip. Haraldson[11] in Sweden independently reported a similar needle recommended by Professor Sjovall. Both authors suggest this type of needle separates the longitudinal fibers without trauma. This is but deductive reasoning and is not supported, as yet, by direct clinical evidence. Whitacre[21] reports the incidence of spinal headaches dropped from 5 to 2 per cent with the use of this particular type of needle. But, again, this particular type of needle may introduce technical difficulties as the hole is 2 mm. from the tip; and in the presence of preexisting low pressure, the dura may be pushed forward without the needle opening penetrating within the subarachnoid space. That is, there are dangers of either (1) an epidural injection, or (2) hemorrhage from trauma to the venous plexus along the anterior wall of the spinal canal. The presence of low pressure is not uncommon especially where there has been recent lumbar puncture, following a myelogram or a recent operation, and in patients suffering from severe systemic debilitation, dehydration, or fever.

Arrowood[13] recently presented a preliminary report on another method for prevention of local leakage. It is the injection of a variable quantity of saline, 10 to 20 cc. into the epidural space at the time of puncture, immediately following or during the removal of the spinal needle. Theoretically, this addition of epidural fluid anticipates a form of therapy employed to reduce the capacity of the subarachnoid space by increasing the epidural space pressure, thus lessening gravity factors for fluid displacement. Arrowood[13] states that this external epidural pressure tends to act in a sealing capacity on the dural puncture rent. The hazards of such a procedure or technique may be observed in the average obstetrical patient; or the patient straining or coughing. In both instances, the increased epidural venous engorgement frequently results in poor control of the height of anesthesia. Any increase in epidural pressure before fixation of the agent may result in upward progression, with medullary anesthesia, especially in the patients in whom no leakage may occur. It is fair to presume that this procedure would be ill-advised in patients with increased pressure headaches; although Arrowood[2] states, from controlled experiments, headaches do not result from increased pressure. I, personally, have had one patient with a severe pressure headache; manometric readings demonstrated a pressure of over 300 mm. of mercury. The lowering of this pressure, by the removal of spinal fluid, relieved the headache.

SYSTEMIC HYDRATION

While the prevention of local leakage is a big factor, many authors feel an increase in systemic hydration, especially in the debilitated, dehydrated or febrile patient, is necessary to prevent the onset of spinal headache. We,[10] in 1944, recommended a daily minimum of 3000 cc. fluid, plus pituitrin, for the relief of headache following subarachnoid ammonium sulphate therapy. Graf[7] advised enforced hydration by increased water intake combined with pituitrin, the antidiuretic principle of the posterior pituitary extract. This regime is used during the first three postoperative days. Wallace Shaw[18] recommended the routine administration of fluid plus electrolyte, particularly saline. He recommends, postoperatively or postpuncture, 1000 to 1500 cc. of normal saline solution, to be followed by 1000 cc. of 5 per cent glucose solution in distilled water; the rate of flow for these solutions to be approximately 500 cc. per hour. In the aged and cardiac patients, this quantity is reduced. We personally feel a minimum of 3000 cc. of fluid, that is, 5 per cent glucose in distilled water, per day is an important factor in lessening headache. I do not recall seing a spinal

headache in a Joslin diabetic postoperative patient. These patients routinely have 2000 to 3000 cc. of intravenous fluid daily.

To sum up measures of prevention:

1. No trauma on the tap.
2. Reduce the rent or tear in the dura by either using a smaller needle or special needle, or the introduction of needles in the proper parallel position.
3. Minimize psychic factors.
4. Adequate to forced hydration.
5. Promote systemic fluid retention.

TREATMENT OF THE SPINAL HEADACHE

If headaches do occur, precautions or not, what is the therapy for treatment? Therapy may be divided into the following:

1. Symptomatic.
2. Local or specific therapy.
3. Systemic or the combination of all three.

1. *Symptomatic Therapy*: The primary purpose of this therapy is the alleviation of headache usually by medicine or positional changes. The medicines consisted primarily of analgesics or narcotics; positional changes being such as low head rest to reduce headache or until the symptoms disappear.

2. *Local or Specific Therapy*: This therapy is usually confined to attempts at (a) preventing leakage or (b) increasing the subarachnoid pressure either by the intrathecal or the extradural injection of fluids. Intrathecal injection is the direct introduction of replacement fluids, usually 40 to 80 cc., within the subarachnoid space. This particular approach is recommended by very few authors as it is usually a temporary relief; and again may result in another puncture hole thus further leakage. The principle of extradural pressure with the resultant increasing of subarachnoid pressure is based on the fact that by increasing epidural pressure we compress the subarachnoid space thus raising the pressure. Many authors recommend the direct approach of the introduction of from 40 to 80 cc. of normal saline directly into the epidural space by means of an epidural lumbar puncture. Some recommend a continuous epidural infusion through a lumbar interspace. Another direct method, that of Rice,[16] is by the caudal infiltration of the epidural space intermittently by use of a plastic continuous catheter in the caudal canal. Twenty to 30 cc. of normal saline are injected as often as deemed necessary to relieve the headache. Rice[16] reports from one to three such injections usually suffices.

The various indirect methods of increasing epidural pressure are by means of increasing intra-abdominal pressure. Usually, the increase of intra-abdominal pressure causes venous engorgement of the blood vessels within the epidural space. This venous engorgement results in a secondary compression of the subarachnoid space thus raising the pressure within. Among the mechanical methods employed, to produce increased intra-abdominal pressure, are tight binders, special abdominal belts as used in obstetrics, or the simplest of all in the female, the wearing of a tight girdle.

While direct and indirect methods of local therapy are recommended, some anesthesiologists feel that the increase in epidural pressure may be transient in nature resulting in a stabilization between the fluid within and without the subarachnoid space within a period of twenty to thirty minutes.

3. *General or Systemic*: This third type of treatment is varied and occasionally contradictory. The methods of therapy may be divided thus: (1) fluids plus drugs influencing the vascular system, or (2) drug therapy alone. I have already mentioned enforced hydration for the prevention of headache; the same holds true for the treatment of spinal headache. We[10] have routinely employed the twice daily administration of 1500 cc. of 5 per cent glucose in distilled water, and when this individual quantity is down to the last 500 cc., 10 units of pituitrin are given intramuscularly. The rationale of this therapy is that the vessels of the brain and allied structures have a weaker, if any vasoconstricting action, than the vascular beds throughout the remainder of the body. The pituitrin influence on the more active vasoconstricting beds will drive fluid into the subarachnoid space. Again,

pituitrin has an antidiuretic action and thus favors fluid retention. Shaw[18] states that the added salt increases fluid retention; therefore, a greater reservoir for the choroid plexus to draw upon. Graf[7] uses 500 to 1000 cc. of 5 per cent dextrose in a hypotonic saline solution, .45 per cent normal saline, which contains 100 mg. of nicotinic acid. This combination, acting as a vasodilator, increases the blood flow through the choroid plexus.

In instances where drug therapy alone is employed, independent of fluid and exclusive of analgesics, nicotinic acid is given orally in the form of niacin 50 mg. tablets, 2 to 4 tablets, or until flushing results, and this particular dosage is repeated at four to six hours intervals until the relief of headache. My experience has been little or no relief with niacin in the severe cases of headache. Another agent employed is caffeine sodium benzoate. A few of my colleagues are trying high concentrations of oxygen since Comroe and Dripps[3] stated the possible value of high concentrations of oxygen for the treatment of migraine headaches. The high concentrations supposedly have a vasoconstricting action on the vessels of the brain. This in turn may reflexly lessen venous engorgement.

Finally, there are many methods of suggestion therapy; some highly individualistic, not the least of which is hypnosis or suggestion. Far fetched, but it will work if one is proficient in hypnosis, as was demonstrated by Raginsky[15] in Boston.

CONCLUSION

To sum up this presentation: The etiological causes for spinal headache are local fluid loss at the site of puncture plus a state of systemic dehydration varying in duration. The prevention and therapy of spinal headache is primarily the correction of the etiological causes. Lessen local fluid leakage, increase or promote enforced hydration. This will result in the secretion of cerebral fluid being greater than fluid loss.

REFERENCES

1. Autoni, N.: Om Lumbalpunktion; Sv. Lakartidn; 20:529; 1923.

2. Arrowood, J. G. and Foldes, F.: Subarachnoid analgesia maintained by continuous drip method, Arch. Surg., 49:241 (Oct.) 1944.

3. Comroe, J. H. and Dripps, R. D.: The Physiologic Basis for Oxygen Therapy, p. 57; Charles C. Thomas, Publisher, 1950.

4. Conway, A.: Discussion of Hebert,[12] J. A. M. A.; 142:556 (Feb. 25) 1950.

5. Cushing and Foley: Alterations of intracranial tension; Proc. Soc. Exp. Biol. & Med., 17.217 (May 22) 1920.

6. Foldes, F.: Personal Communication.

7. Graf, J. P. *et al*: Etiology and treatment of postspinal headache, Anesthesiology, 12:477 (July) 1951.

8. Greene, B.: A 26 gauge lumbar puncture needle, etc.; Anesthesiology, 11:464 (July) 1950.

9. Greene, H. H.: Lumbar puncture and prevention of postpuncture headache, J. A. M. A. 86:391 (Feb. 6) 1926.

10. Hand, L. V.: Subarachnoid ammonium sulfate therapy for intractable pain, Anesthesiology, 5:354 (July) 1944.

11. Haraldson, S.: Headache after spinal anesthesia, Anesthesiology; 12:321 (May) 1951.

12. Hebert, C. L.: Complications of spinal anesthesia, J. A. M. A.; 142:551 (Feb. 25) 1950.

13. Kaplan, M. S. and Arrowood, J. G.: Prevention of headache following spinal anesthesia, Anesthesiology; 13:103 (Jan.) 1952.

14. Nicholson, M. J. and Eversole, U. H.: Neurologic complications of spinal anesthesia, J. A. M. A.; 132:679 (Nov. 23) 1946.

15. Raginsky, B. B.: Mental Suggestion as an aid in anesthesia, Anesthesiology, 9:472 (Sept.) 1948.

16. Rice, G. G. *et al*: Use of peridural solution and subarachnoid injections of saline in the treatment of severe postspinal headache, Anesthesiology, 11:17 (Jan.) 1950.

17. Secard, J. A.: Le Liquide Aphalorichidien, Paris; Masson et Cie; Gauthier-Villars; 1902.

18. Shaw, W. M.: Prevention of postspinal headaches by parenteral hydration, New York State J. Med. 51:2905 (Dec. 15) 1951.

19. Thorsen, G.: Neurologic complications after spinal anesthesia, Acta chir. Scandinav.; 95:1-272, 1947.

20. Weed, L. H. *et al*: Pressure changes in cerebrospinal fluid following intravenous injections of solutions of various concentrations, Am. J. Physiol. 48:512 (May) 1919.

21. Whitacre, R. J. *et al*: Pencil point needle in prevention of postspinal headache, J. A. M. A., 147:657 (Oct. 13) 1951.

EN BLOC SURGERY FOR INTRA-ORAL CANCER*

WALLACE H. BROWN, M. D.

SHREVEPORT

Many therapist and cancer clinics report about 25 per cent five year cure rates for intra-oral cancer. Although such results surpass the cure rate in lung cancer and are far superior to those in gastric cancer, the outlook for three out of four individuals affected with cancer of the tongue, floor of the mouth, alveolar ridge, tonsil and tonilar pillars is dismal. Unrelenting pain, salivation, progressive nutritional failure, and foul sloughs plague the patient and

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harass his family and physician. Death results from local and regional disease and almost never from blood stream invasion. Familiarity with this picture leaves the medical profession and laity with a feeling of uncertainty and promotes delay and inadequate and improper treatment. Further discussion of some phases of the problem, along with an attempt to standardize treatment seems indicated.

REASONS FOR POOR RESULTS

To survey past experience and properly evaluate treatment, let us consider the most apparent reasons for poor results in these lesions that are so accessible to early detection by the examining eye and finger. One of the most important of these is the anatomical factor which interferes with the proper application and use of x-ray, radium, radon seed, and surgery. The proximity of the neoplasm to the teeth, bone, and functionally important organs such as the salivary apparatus and tongue, presents mechanical interference as well as sequelae.

A second and very important factor is that of infection. Infection rapidly propagates extension and metastases so that lesions readily classified as early can within four to six weeks seem almost hopelessly advanced.

A third factor of great importance is the resistance of the lesion to irradiation. Whether or not growth will continue almost unabated while intensive therapy is being applied cannot always be predicted prior to trial of therapy. A corollary to resistance of the primary is the fourth factor, that is, the ease and speed with which metastases occur. Many authors have pointed out the frequency of nodes developing and becoming fixed while the primary is being actively irradiated.

A fifth significant reason for failure to cure is less directly applicable but still significant and brings into account the difficulties of application of intensive irradiation or extensive surgery because of age and nutrition.

TREATMENT

Prior to the development of x-ray the treatment was surgical. Local removal gave poor results and it was hoped that more cures would be obtained by irradiation. Little improvement resulted and various combinations of irradiation and surgery were then proposed. Many clinics have adopted and are extending the plan of irradiating the primary and dissecting the neck. This plan has considerable merit and takes into account the high incidence of cervical metastasis. Ward and Robben report Morrow as finding tongue cancer to be present in nonpalpable nodes in 39 per cent, and in palpable nodes in 52 per cent, while oral cancer generally has 34 per cent metastasis when nodes are not palpable and 55 per cent when nodes are palpable.

Such a combination of treatments has improved results to 30 per cent five year cures in some clinics, but has failed in the remaining cases because the primary is not controlled or is not brought under control until hard and fixed metastases have developed. Also, this combination does not accomplish en bloc therapy as in radical breast surgery or in the Miles' abdominoperineal resection. Many cancer cells are in the lymphatics between the primary and the cervical region and are especially prone to become fixed to the periosteum of the mandible or to invade the bone. Robben reports that lymphatics pass from the floor to the mouth through the mandibular periosteum in half the anatomical studies conducted by Polya and Novratil.

A logical approach to fulfill the requirements of cure has resulted in the adoption of the composite operation. This procedure is designed to excise the primary, the floor of the mouth, mandible and neck nodes in continuity. It can be used in combination with irradiation to the primary or as the initial treatment. It is major, mutilating surgery but has been made feasible by improvements in surgical technique and reconstruction along with improvements in anesthesia, antibiotics, and nutritional support of the patient.

We have carried out the procedure in 8 cases. Six of these cases were operated on from the Head and Neck Department of Shreveport Charity Hospital Tumor Clinic

where the resident staff did much of the work. To a great extent the technique is patterned after that of Slaughter, Booser and Smejkai and from Ward, Hendrick and Robben. In our last 2 cases split graft linings were prepared according to Edgerton's description. The following technique reviews many of the thoughts expressed in publications by these authors.

Preliminary therapy includes evaluation of the nutritional and cardiorenal status and attention to oral hygiene. We now feel that preliminary plans should be made concerning closure of the wound and possible future reconstruction of the mandible. It is important not to unduly delay surgery but it is wise to consider ways and means of avoiding fistulae, contractures, displacements of mandibular fragments, failing nutrition and morale. This preliminary planning concerns itself with full thickness flaps prepared in the cervical skin for possible future bone graft or with split graft lining for cervical and cheek flaps when no future bone grafting is expected.

Additional planning may be directed at fixing the mandibular fragments by wire, internal plate, wiring of teeth, or by external fixation with a band around the neck attached to angles of the mandible or by the use of external splints. In most cases it will be found that no fixation is desired.

Such procedures may require ten to fourteen days and can be carried out under local anesthesia while improvement in oral hygiene and general support is being accomplished. The actual operation then is done with endotracheal anesthesia and is started by completing the neck dissection up to the hyoid level. The skin flaps are closed and the mandible removed as a part of the specimen or subperiosteally by elevating the periosteum and removing the bone proper. The dissection is then carried upward entering the oral cavity by incision above the mandible or mandibular periosteum. Where the tongue is involved it is pulled into the wound by traction suture and incised down its center. If there is extensive growth anteriorly, the anterior belly of the digastric, geniohyoid, and mylohyoid are removed. If posterior growth is greatest, the mylohyoid, styloglossus, posterior belly of the digastric and stylohyoid are removed, with the specimen. This procedure is followed when the lesion involves the anterior pillar or pharynx.

Following this resection the neck dissection is completed and internal fixation for mandibular fragments put in place if this is planned. The previously prepared flap is sutured by chromic suture to the tongue or floor of the mouth. Skin closure is secured, drains put in place and a nasogastric tube inserted. A tracheostomy is done at this stage or may have been instituted at the beginning of surgery. If the lesion is in the tongue and is small enough to be 1 cm. or more away from the nearest segment of mandible it is possible to avoid mandibular resection by a "pull through" procedure as outlined by Ward and Robben.

Seven of our 8 cases are alive and free of disease six to thirty-six months following surgery. The 1 patient who died was not free of disease at the completion of surgery.

CONCLUSIONS

The composite operation fulfills the requirements of good cancer surgery and can be accomplished without undue risk to the patient.

Our experience and the reported experience of others would seem to indicate that many cases otherwise lost can be salvaged. Generally speaking, these patients are grateful and well adjusted. They are able to carry on their usual routines.

Palliation alone is adequate reason for surgery. Should all cases be lost during subsequent follow-up, they will have escaped much of the pain, fistulae and foul necrosis characteristic of intra-oral cancer.

Review of the many problems of intra-oral cancer points out the difficulty of separating the case who will be well without en bloc surgery from the next three who will need it for cure. This would suggest the necessity of treating all cases with en bloc surgery either primarily or as an early follow-up to irradiation.

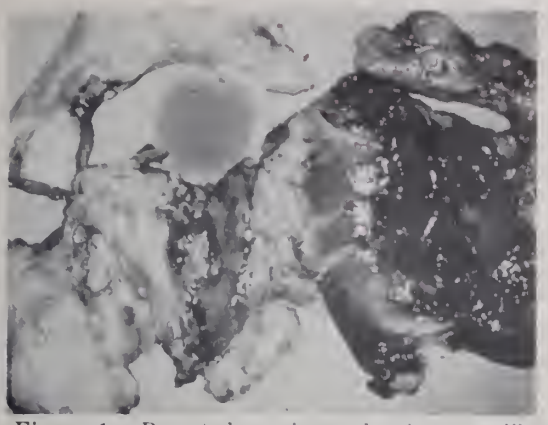

Figure 1.—Resected specimen showing mandibular segment, one-half tongue, and neck dissection. Lesion is seen at base of tongue.

Figure 2.—Postoperative. (Case No. 1, B.M.P.)

Figure 3.—Case No. 1, B.M.P.

CASE REPORTS

Case No. 1. B. M. P., 75 year old white male. This patient was first seen in Tumor Clinic on May 25, 1950. He stated that in 1948, he noticed a lesion on his right buccal mucosa. A local physician treated him with injection and referred him to a radiologist who proved epidermoid carcinoma Grade 2, by biopsy. He was then treated with 3000 R to two external ports and 1680 mgs. hours of interstitial radium. Since that time swelling in front of and posterior to the mandible progressively increased in size.

Figure 4.—Postoperative. Case No. 1, B.M.P.

Examination revealed ulceration of the buccal mucosa extending down to the alveolar process of the mandible, with exposed necrotic bone. Biopsy of the ulcerated area was negative. The mass was aspirated and reported as positive for malignant cells.

The patient was prepared for radical surgery, and on June 28, 1950, resection of right mandible and neck dissection were done in continuity. Pathology report of surgical specimen showed that the primary site of carcinoma was thought to be in the area of the healed ulcer on the alveolar ridge with metastases to a lymph node adjacent to the submaxillary gland. Sections revealed no lymph nodes. Nothing significant in the mandible.

Subsequent follow-up at regular intervals revealed no evidence of local or general recurrence and the patient has no complaints.

Case No. 2. F. W., 65 year old white male. This patient was first seen in Tumor Clinic on September 6, 1939, with a chief complaint of an ulcer on his lower lip of eight months' duration. Biopsy proved this to be squamous carcinoma Grade 2. He received 3734 R in air to the lower lip with good healing. He was followed at regular intervals for about one year and then lost to follow-up until April 10, 1951, when he was seen in Tumor Clinic complaining of a painful throat of four weeks' duration and intermittent bleeding from the region of his left tonsil of the same duration. Examination at this time revealed the left tonsil to be enlarged and slightly hyperemic, with a 0.5 cm. cavity in the anterior superior quadrant. The lesion was firm to palpation and there was a 1.5 cm. node palpable in the left cervical chain. Biopsy of the lesion of the tonsil proved it to be squamous carcinoma Grade 2 plus.

He was given intensive x-ray therapy (3000 R in air, to each of 2 ports) during April and May of 1951. He was discharged May 11, 1951, and returned in one month with good regression.

He was again admitted in June 1951, and had radon seeds implanted into the left tonsil and pos-

terior portion of the tongue. These were calculated to deliver a dosage of 5000 gamma R's. He was then discharged and seen again in July. At that time he was found to have 1 cm. indurated, tender area in the mid-lateral portion of his tongue on the left. One biopsy in this region was negative, but the second biopsy proved to be squamous carcinoma Grade 2 plus, infiltrating striate muscle.

He was then prepared for radical surgery and on September 11, 1951, he had a neck dissection with removal of the mandible, one half of the tongue, tonsil and a portion of the oropharynx, done in continuity on the left. The postoperative course was complicated by the fact that there was breakdown of the posterior portion of the wound in the superior portion. He is in the hospital undergoing plastic repair of the defect at this time.

Pathology report on the surgical specimen was squamous carcinoma Grade 2 infiltrating striate muscle of the tongue. The lymph nodes were negative for metastases.

Case No. 3. B. L., 50 year old colored male. Patient noted small swelling to right of mental process of mandible in January 1950. Two months later noted ulcer over right side of tongue. Examination revealed a huge mass, hard and nodular, in the right suprahyoid region attached to the mandible. Examination of the mouth revealed a large ulcer beginning at the base of the tongue and extending forward for 4 cms. It was 2 cms. in diameter. Biopsy was reported as squamous carcinoma Grade 2 to 3.

He was prepared for radical surgery and had a Commando procedure (one-half tongue, mandible, and neck dissection in continuity) done on April 24, 1950. Pathology report on surgical specimen showed squamous carcinoma Grade 2 to 3 of tongue with only one node positive but the submaxillary gland was replaced by tumor. Tumor tissue was left on wall of larynx. Surgery was followed by 1000 R units in air and 1300 mg. hours of radium by means of three radium needles into the tongue. This was completed on June 20, 1950.

The patient was readmitted on July 6, 1950, for excision of nodule 3 inches above clavicle on the anterior border of the trapezius, which was reported as squamous carcinoma Grade 2. Since there was active carcinoma over the carotid vessels, it was suggested that the artery be obliterated for a matter of hours to see if he could tolerate resection of the common carotid artery. This procedure was carried out and the patient tolerated the clamp well, but resection of the vessel was decided against since it was felt that tumor tissue extended beyond the limits of beneficial surgery.

Another 400 R of x-irradiation given for pallation on July 26, 1950, to a tumor nodule below the right clavicle. He was followed at regular intervals and kept well sedated with morphine sulphate. The tumor continued to grow locally and the patied expired at home of local disease on November 9, 1950.

Figure 5.—Case No. 4, R.L.B.

Figure 6.—Case No. 4, R.L.B.

Case No. 4. R. L. B., 47 year old white male. This patient was first seen in Tumor Clinic, on May 25, 1950, with a history of hospitalization two years previously for incision and drainage of a pretonsillar abscess, with uneventful postoperative recovery. For two to three months prior to admission to Tumor Clinic he had a painful ulceration in the right side of his mouth at the base of the tongue and the base of the tonsillar pillar extending over into the alveolar process. One lymph node was palpable at the tip of the hyoid bone on the right side. Biopsy of this lesion revealed squamous carcinoma Grade 3. Tumor conference recommended radical surgery.

Patient was prepared for surgery and a resection of right jaw, tonsillar fossa, and unilateral neck dissection was done on June 8, 1950, and patient was discharged on June 24, 1950. Pathological report of surgical specimen was squamous carcinoma Grade 2 to 3, arising from mucosa of buccolingual fold at anterior margin of right tonsil. Invasion was superficial extending into the submucosa and mucous glands. The tonsil was not involved. No metastases were found in lymph node.

He was followed at regular intervals after surgery, and on January 10, 1951, a small lymph node was removed from the neck just to the left of the midline 4 cm. below the mandible. This was reported as nonspecific lymphadenitis. Subsequent

follow-up to the present time has shown no local or regional recurrence but he continues to complain of inability to gain weight and some difficulty in swallowing.

Case No. 5. J. B., 70 year old white male. This patient was admitted July 3, 1951, complaining of a sore jaw. He had first noticed a mass in his left lower jaw three weeks previously which rapidly increased in size and began to drain pus into his oral cavity. He had had carious teeth for years.

X-rays revealed a large area of bone destruction in the left mandible underneath the lesion. Biopsy showed squamous cell carcinoma Grade 2 to 3.

In preparation for surgery, the teeth were extracted and an attempt made to improve his oral hygiene. He also received blood and penicillin.

On July 31, he was taken to surgery and the primary lesion, most of the left mandible, and the cervical lymph nodes removed in continuity. A primary closure was done. Pathology reported squamous carcinoma with extension to the mandible and metastases to three lymph nodes.

His postoperative course was uneventful, and he was discharged on the fifteenth postoperative day with good healing.

Follow-up has revealed no evidence of recurrence.

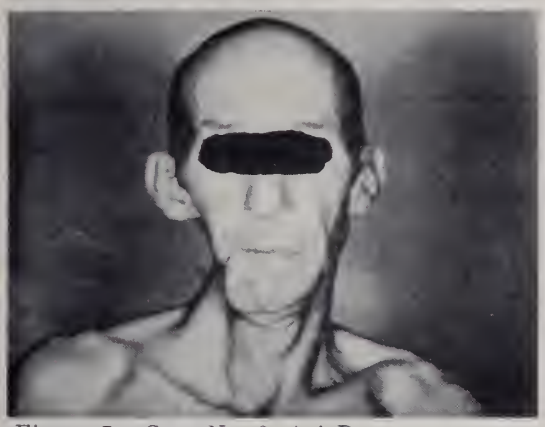

Figure 7.—Case No. 6, A.A.R.

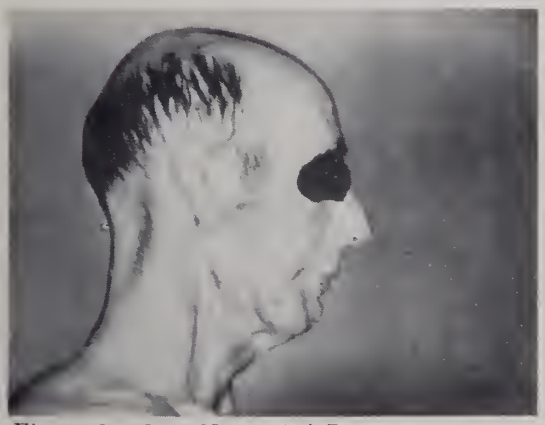

Figure 8.—Case No. 6, A.A.R.

Case No. 6. A. A. R., 43 year old white male. Patient was first seen in Tumor Clinic in May 1947, with a chief complaint of a sore in his mouth. A biopsy by a local physician was reported as squamous carcinoma Grade 4. Examination revealed a fungating lesion arising from the left tonsil and involving the base of the tongue. Palpable nodes were present in both cervical chains, the largest one being in the right midcervical region. Aspiration biopsy of the nodes on the right was positive for epidermoid carcinoma. The patient was marked for x-ray therapy to two external ports to be followed later by intra-oral treatment.

He was treated with intensive x-ray treatment to external (3000R) and intra-oral (1800 R) ports. He developed necrosis and some sloughing in the tonsillar area, but biopsies were negative for carcinoma. In May 1948, a large, firm node was noticed in the anterior cervical chain on the left. This completely regressed with x-ray treatment 4200 R. He was negative for recurrence until January 1949, when a 2.5 cm. lesion was noted on the left side of tongue 1 inch anterior to the tonsil. Biopsy showed a Grade 1 plus squamous carcinoma. It was then decided to treat the patient with surgery. On March 31, 1949, he had a resection of the left angle of the mandible, left side of tongue, and a radical neck dissection. The surgical specimen was reported by pathology as epidermoid carcinoma Grade 2 plus of the tongue with one node positive for carcinoma located in the anterior superior cervical region. Postoperatively he healed well, and repeated clinic visits failed to reveal any local or regional recurrences. He complains of discomfort in the region of the temporomandibular joint.

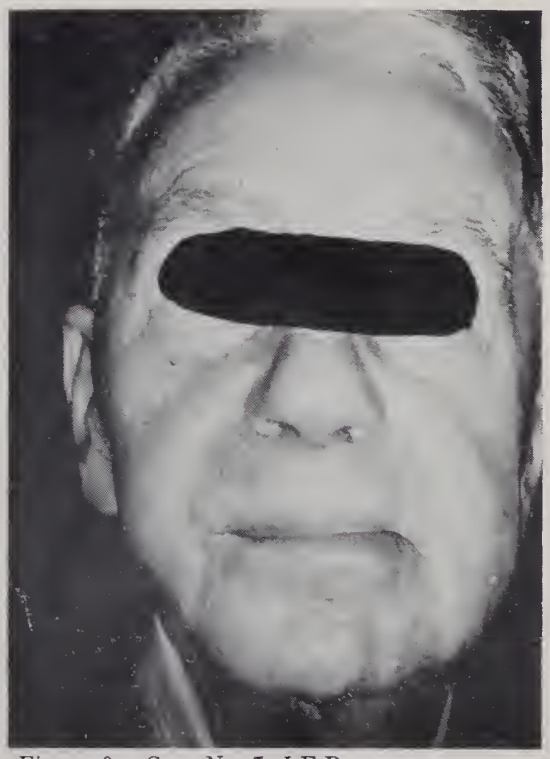

Figure 9.—Case No. 7, J.E.P.

Figure 10.—Case No. 7, J.E.P.

Case No. 7. J. E. P., white male age 71. Tongue lesion biopsied on December 28, 1950, with positive diagnosis of squamous carcinoma Grade 2. The lesion was a 2 cm. ulcer on left side of tongue at junction of oral and basilar portions.

X-ray therapy was given by external and intra-oral portals to maximum dosage in January and February of 1951. Radon seed were implanted on February 6, 1951.

In October 1951, biopsies revealed squamous carcinoma of left side of tongue and floor of mouth. The composite operation was carried out after preliminary lining graft was prepared after Edgerton's technique.

Figure 11.—Case No. 8, J.F.W.

Case No. 8. J. F. W., white male age 65. This patient presented an ulcerated lesion 2. 5 cm. overlying the left lower alveolar ridge. Biopsy revealed squamous carcinoma grade 2. Mandibular necrosis was visible in the intra-oral ulcer.

Irradiation had been given five years ago and again in 1949. There were no palpable nodes. Composite operation was carried out on June 28, 1950.

There is no evidence of recurrence at this time. The nutritional state is good. The patient is working and well adjusted.

REFERENCES

1. Edgerton, M. T., Jr.: Replacement of lining to oral cavity following Surgery, Cancer 4,110, 1951.

2. Slaughter, Danely P., Rooser, Erwin H. and Smejkal, Walter F.: Excision of the mandible for neoplastic disease; indications and technique, Surgery 26:507, 1949.

3. Sugarbaker, Everett D. and Gilford, Jack: Combined jaw resection, neck dissection for metastatic cancer of cervical lymph nodes secondarily involving the mandible. Surg. Gyn. & Obst. 83:767, 1946.

4. Ward, Grant E.and Robben, John O.: A composite operation for radical neck and removal of cancer of the mouth. Cancer 4:98, 1951.

5. Ward, G. E. and Hendrick, J. W.: Diagnosis and Treatment of Tumors of the Head and Removal of Cancer of The Mouth. Williams & Wilkins Co., 1950.

6. Wooky, Harold, Ash, Clifford, Welsh, W. Keith, and Mestard, R. A.: The treatment of oral cancer by a combination of radiotherapy and surgery. Ann. Surg. 134:529, 1951.

SURGERY IN DEAFNESS*

HAROLD G. TABB, M. D.†

NEW ORLEANS

Surgery in deafness encompasses all the surgical procedures, both prophylactic and therapeutic, performed on the organ of hearing and its adnexa, which will improve the existing level of hearing or prevent the further impairment of hearing. In the pre-antibiotic era, otologic surgery was primarily concerned with preservation of life and, as a consequence, little concern was given to conservation of hearing. However, with infection controlled today by specific drugs so that it is no longer a hazard to life, the surgery in otology must strive to preserve and restore the maximum amount of hearing function.

The surgical procedures which, I believe, have the greatest effect on preservation of hearing are:

1. The adenoidectomy.

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†From the Departments of Otolaryngology, Tulane University School of Medicine, and Charity Hospital, New Orleans, La.

2. The myringotomy.
3. The mastoidectomy, the type depending on the extent of disease and the existing level of hearing.
4. The fenestration operation.

THE ADENOIDS IN DEAFNESS

There are no structures adjacent to the ear more closely related to the function of hearing than the adenoids. Therefore the proper administration of therapy to the adenoids is vital to the management of deafness. Because of their proximity to the eustachian tube orifices, infection and hypertrophy can produce tubal obstruction, otitis media, and conductive deafness. It is generally conceded that adenoid hypertrophy is the most common cause of early deafness in children. Therefore, it is evident that whenever an impairment of hearing occurs in the presence of enlarged adenoids, the treatment is removal of those adenoids.

Removal of the adenoids is best accomplished by surgical means. Surgical removal is indicated whenever there is gross evidence of lymphoid tissue in the nasopharynx. Radium and external irradiation of the nasopharynx should be reserved for those cases in which there is no gross lymphoid tissue in the nasopharynx, yet the symptoms of eustachian tube blockage with otitis media continue.

I am convinced that the proper adenoidectomy, as emphasized by Meltzer,[1] should be one meticulously performed under direct vision, using the adenotome for removing the bulk of tissue and employing sharp punches for removing completely the lymphoid tissue around the eustachian tube orifices, in the fossa of Rosenmuller, inferiorly along the salpingopharyngeal folds and scattered in patches over the oropharynx.

When the lymphoid tissue is removed thoroughly and completely in this manner, uniformly good results will follow and the danger to hearing from this cause will be eliminated.

MYRINGOTOMY

Myringotomy is one of the simplest and most fundamental surgical measures in the prevention of deafness and should be performed unhesitatingly whenever the signs and symptoms of fluid or abscess in the middle ear are present.

With the widespread use of antibiotics today, there is a growing tendency among clinicians never to do myringotomies in acute suppurative otitis media but instead, to sterilize the infection with massive doses of drugs. I have seen this work in a surprising number of patients and the infectious process has been reversed without sequelae. However, in a small percentage of these cases, irreparable damage to hearing will ensue because of an unresolved exudate remaining in the middle ear causing adhesions to occur, which will immobilize the drum and ossicles impeding function and impairing hearing.

Hoople[2] has noticed a 20 per cent increase in the incidence of fluid in the middle ear since the advent of biochemical treatment of purulent otitis media and the greater part of this increase was in children.

Myringotomy in acute suppurative otitis media should be carefully placed in the posterior inferior aspect of the drum and wide enough to afford sufficient drainage.

Myringotomy for serous otitis media should be only large enough to remove the fluid and can be placed in the posterior inferior or the anterior inferior quadrant of the ear drum. Hearing function is best conserved when drainage is established early for fluid in the middle ear.

SIMPLE MASTOIDECTOMY

The incidence of mastoidectomy has decreased markedly today, but the operation is not extinct. It is still a necessary surgical procedure to eliminate resistant disease of the temporal bone. The type of mastoidectomy performed is determined by the extent of disease and the existing level of hearing.

The simple mastoidectomy offers the least disturbance to the mechanism of hearing and is performed when disease is limited to the mastoid bone, the mastoid antrum, and the aditus. It is indicated when recurring attacks of mastoiditis develop with impairment of hearing secondary to otitis media, even though chemotherapy has been employed. This mastoiditis may be mani-

fested by persistent mastoid tenderness (over the antrum, tip, and emissary vein) and accompanied by pain, headache, and aural discharge. A simple mastoidectomy is necessary also when the hearing is at a practical level, and, when, in the presence of an acute mastoiditis, labyrinthine symptoms or signs of facial weakness develop.

The simple mastoidectomy is best performed through an endaural approach. The mastoid cells are carefully and completely exenterated with a high speed, motor driven burr. The dural plate, lateral sinus plate, and the posterior bony wall of the external auditory canal are skeletonized. The mastoid antrum is opened, the aditus is widened, and the incudomalleolar joint is exposed.

Wide surgical drainage is afforded with this procedure; the middle ear is left undisturbed and hearing is conserved.

MODIFIED RADICAL MASTOIDECTOMY

The modified radical mastoidectomy is the procedure of choice in disease of the epitympanum, aditus and the mastoid process, when hearing is serviceable and the ear drum practically intact. There is usually a small perforation of Shrapnell's membrane or a marginal perforation at the posterior superior region of the drum. A cholesteatoma may or may not be present.

The operation entails exenterating the mastoid cells through an endaural incision and removing the posterior bony canal wall and the lateral wall of the epitympanic space, so as to visualize this space. The head of the malleus and the incus may or may not be removed, depending on the extent of their involvement. A tympanomeatal flap is laid over the ossicles and into the mastoid cavity, thus converting the epitympanic cavity and the mastoid cavity into one common space and sealing off the tympanic cavity below.

Maintenance of servicable hearing can be obtained with this type procedure in a large percentage of cases, even though the disease is usually an extensive process.

RADICAL MASTOIDECTOMY

In the radical mastoidectomy hearing is of no consequence, since it is always below any salvageable level; therefore, the primary consideration must be thorough elimination of disease with the attainment, postoperatively, of a dry, epithelialized mastoid cavity. In achieving this goal, I have followed certain broad principles, which, I think, are necessary:

1. Remove every vestige of disease from the mastoid and tympanic cavities, using the proper illumination, magnification, and endaural instruments.
2. Curette vigorously the osseous portion of the eustachian tube under direct vision removing all mucous membrane and the surrounding peritubal cells.
3. Place a split-thickness skin graft so as to completely cover the tympanomastoid cavity and pack in place for nine days without interference.

FENESTRATION OPERATION

In gradual, progressive deafness secondary to otosclerosis, the fenestration operation offers the best chance to restore permanent, serviceable hearing to a high percentage of cases.

The operation was made practical by Julius Lempert[3] in 1941, when he first described his one stage nov-ovalis technique for opening the surgical dome of the vestibular labyrinth. This created a new window to the inner ear, so that sound might by-pass the normal pathway which was impeded by fixation of the stapes due to overgrowth of bone.

The operation was hailed as one of the great advancements in otology and has in the past decade successfully restored hearing to nearly 20,000 persons who were hopelessly deaf. It is not perfected entirely, although rapid strides are being made toward that end. The biggest deterrent to the success of the operation has been closure of the newly created labyrinthine window. The incidence of this closure, which amounted to almost one half the cases in earlier days, now approximates less than 10 per cent, varying with the proficiency of the operator.

The fenestration operation requires an ingenious technique of exposing the epitympanic space and the horizontal semicir-

cular canal through an endaural approach. It is then necessary to remove the incus, head of the malleus, and the posterior bony wall of the external auditory canal and to make an opening approximately 2 by 5 mm. in the bony labyrinth over the ampulla of the horizontal semicircular canal. A tympanomeatal flap is laid over this newly created window. The flap hermetically seals the tympanic cavity and forms a functioning, protective cover over the exposed membranous labyrinth for transmission of sound.

With newer developments and refinements in this technique, the incidence of bony closure is being progressively decreased. These improvements have been outlined by Lempert[4,5] and include:

1. Making the fenestra as wide as possible in the surgical dome of the vestibule of the labyrinth.
2. Using the bone-dust-free technique.
3. Invaginating and securing in place the portion of the tympanomeatal flap over the fenestra, so that primary union of the skin and fenestra rim takes place.

It has been my experience that when this improved technique of fenestration surgery is meticulously performed in an organized manner with the necessary patience and thoroughness, a gratifying result will usually be forthcoming.

SUMMARY

The most important surgical procedures in the management of deafness are:

1. A thorough and complete adenoidectomy.
2. A well placed, early myringotomy.
3. A proper mastoidectomy, which will eradicate disease and preserve the greatest amount of hearing function.
4. A fenestration on selected cases of deafness secondary to otosclerosis.

REFERENCES

1. Meltzer, Philip E.: Surgical procedures directed toward the prevention of hearing impairment in children, Laryngoscope, 59:1225 (Nov.) 1949.

2. Hoople, Gordon D.: Otitis media with effusion—A challenge to otolaryngology, Laryngoscope, 60:315 (April) 1950.

3. Lempert, J.: Fenestra Nov-Ovalis, Arch. Otolaryngol., 34:880 (Nov.) 1941.

4. Lempert, J.: Bone-dust-free Lempert fenestra nov-ovalis, Arch. Otolaryngol., 47:280 (March) 1948.

5. Lempert, J.: The permanently patent fenestra nov-ovalis, Laryngoscope, 61:215 (March) 1951.

DISCUSSION

Dr. Miles L. Lewis, Jr. (New Orleans.) I would like to congratulate Dr. Tabb on his excellent and timely paper, and would like to make a few comments on the topic.

One point should be made clear: All surgery mentioned in Dr. Tabb's presentation, be it curative or preventive, deals only with conduction deafness, or the conduction component of mixed deafness. Thus far, there has been no successful medical or surgical treatment of nerve deafness.

With the advent of the sulfonamides and later the antibiotics, the incidence of complications of acute otitis media dropped to practically nothing, and with this drop, otological surgery and the interest in otology dropped also. Then, as Dr. Tabb stated, the interest in otology was necessarily directed toward the conservation and improvement of hearing. This interest in hearing received a great stimulus by the development of the one-stage fenestration operation by Dr. Lempert, and to a lesser degree by the work of Crowe and his co-workers in the treatment of conduction deafness in children due to eustachian tube obstruction by lymphoid hyperplasia. The careful adenoidectomy, followed when necessary by irradiation of the nasopharynx, is the most important surgical measure used in deafness, and its results are most gratifying.

I would like to emphasize Dr. Tabb's remarks about the desirability and importance of doing a myringotomy. Any time there is even moderate bulging of the of the tympanic membrane in acute otitis media a myringotomy should be done.

The simple mastoidectomy is the treatment of choice of masked mastoiditis, that is, acute mastoiditis, the signs and symptoms of which have been "masked" by inadequate therapy with antibiotics.

In the modified radical and radical mastoidectomies the primary concern is the conversion of a potentially dangerous condition, in which intracranial complications can occur, into a safe condition. The second consideration is the preservation or improvement of hearing.

Otosclerosis is a progressive disease with increasing deafness, and, as it progresses, is often complicated by secondary nerve degeneration. Only by early case finding can the patient be evaluated for fenestration surgery while he is still an ideal candidate, and the careful selection of ideal candidates is the most important single factor in obtaining good results from fenestration surgery.

WHAT THE GENERAL PRACTITIONER SHOULD KNOW ABOUT CROSSED EYES*

B. MORRIS PHILLIPS, M. D.

MONROE

Many questions arise in the minds of parents of the child whose eyes cross and it is usually the family doctor who is first called upon to answer these questions. The answers given may determine whether the child is to have a sound and useful eye or a blind one, not to mention the effect they may have on the personality of the child.

For one who is in a branch of medicine other than that of diseases and surgery of the eyes there is little reason to learn about crossed eyes. It is the purpose of this paper, to render information which may enable the practitioner to give sound advice to the naturally worried parents of the child with crossed eyes. Some of the most commonly asked questions as regards crossed eyes will be given and briefly the answers. The term crossed eyes or cross-eyed is used in a broad sense in this discussion and merely refers to eyes that are not straight.

One of the questions frequently asked first is "Why did the eyes of my child cross?" Of the eyes that are not straight at birth—and Scobee says that slightly more than one-fourth of all the children with crossed eyes have them from birth—inherited defects are the most frequent cause. Almost invariably this condition runs in families. Parents need not necessarily show the defect themselves to pass it on to their children. Birth injuries cause eyes to be crossed from birth. It has been estimated that 40 per cent of all babies born after a normal spontaneous delivery have multiple tiny bleeding points in the brain as a result of compression of the head during birth. In the great majority of instances these small hemorrhages are absorbed and no damage is done. Only about 1.5 per cent of all children in this country at the present time, it is said, have eyes that are not straight. The difference between 40 per cent and 1.5 per cent is great but it is not difficult to see, however, that some disturbance of one of the delicate control centers in the brain might do permanent damage and thus result in crossed eyes.

A common age at which eyes are noted to cross is between two and one-half to three years. Convergence and accommodation are so closely allied that when accommodation is excessive, convergence tends to be excessive too, and if fusion is weak, the eyes may actually cross. Careful studies have shown that in the majority of children whose eyes cross between the ages of two and one-half to three years, there will be found some abnormality in the muscles or attachments of the muscles that move the eyes as well as the far-sightedness. Many childhood diseases occur at or about this same age and the parents may blame the most recent illness when the eyes finally do cross. Actually, the diesase may have hastened the time of crossing but it probably did not cause the eyes to cross all by itself. Diphtheria is one disease which may affect the muscle directly.

Eyes cross after injury and blinding of one eye. Fusion is now impossible and the blinded eye will deviate in one direction or the other since there is no reason for the two eyes to work together as a team.

In summary, eyes may cross because of inherited abnormalities of the muscles that move the eyes, because of far-sightedness, because of injury to the brain or to the eye muscles at birth, because of loss of vision in one eye, or because of some disease which affects the eye muscles directly or portions of the brain which control the eye muscles or movements of the eyes.

"Will a child outgrow crossed eyes? If so, how long will it take?" About the only type of crossed eyes which is ever outgrown is that type which is almost purely nervous in origin. All other types are permanent unless treated. Thus, the parents of cross-eyed children should beware not only of the advice but also of the source of that advice when they are told that the child will probably outgrow its crossed eyes. Parents who

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wait to see if their child will outgrow crossed eyes expose him to psychic trauma to the extent that by the time he reaches kindergarten his behavior is already affected. By the time he reaches the first grade there are definite psychologic scars on the personality. He feels different from other children. He has the feeling of not belonging.

"Why is it important to straighten a child's eyes before he or she starts to school?" The psychologic scars on the personality can be avoided entirely if the eyes are straightened early in life. This allows the child a normal development with straight eyes in the society of his or her fellows—a normal development because the child need no longer feel different from the others. Eyes which are crossed at birth are not going to straighten with the passage of time. Therefore treatment should be begun at an early age. Its too late to wait until a child is old enough to decide whether he or she wants the eyes straightened, and occasionally, one encounters the parents whose stated reaction is just that. One has but to listen to the bitter remarks of adults with crossed eyes whose parents never did anything about the situation to realize that the child, when grown, is not in the least grateful for such treatment.

"Why not wait until ten or twelve years of age to have the eyes straightened?" Crossed eyes not only affect the personality of the patient but the eyes as well. There are two main types of crossed eyes, the monocular type and the alternating type. If the former is not corrected early blindness of disuse and abnormal retinal correspondence may develop. In the alternating type the bad habit of alternating suppression may develop. Any of these occurrences may prevent the eyes from working together as a team and act as an obstacle in reaching the goal of fusion. Even if the eyes are straightened by operation there is no guarantee that they will remain straight unless fusion is attained. The best time for treatment is early.

"Why is it necessary to dilate the eyes of the child with crossed eyes when examining for glasses?" Briefly, this puts the accommodation or focusing power of the eye at rest. If the eyes are crossing due to excessive far-sightedness then this allows the amount of far-sightedness to be measured fairly accurately and thus obtain the correct prescription for glasses.

"Why do glasses seem to straighten, at least partially, the crossed eyes of some children?" If the eyes are crossed only because of far-sightedness, then glasses will completely straighten them. If they are not completely straightened with glasses then obviously something more than glasses alone is needed to get the eyes straight. This usually means an operation and exercises.

"Does the child with crossed eyes need to wear glasses all the time?" The answer is yes. If a child has crossed eyes due to far-sightedness and wears glasses to correct this then removing the glasses for even a few minutes causes the child to use his ciliary muscle excessively to overcome his far-sightedness. This causes overconvergence and crossing of the eyes again.

"Must a child, whose eyes cross, necessarily wear glasses all of his life?" This question can only be answered by replying, maybe. Some children outgrow a part, and occasionally, all of their far-sightedness. If they outgrow it entirely then certainly there will be no need for glasses. If, on the other hand, they outgrow only a part of it and that part which remains is still sufficient to make the eyes cross without correcting glasses, then glasses should be worn as long as they keep the eyes straight. If fusion can be developed and the patient is only moderately far-sighted then it may be that glasses need be worn only for reading and close work.

Often parents ask if glasses correcting far-sightedness cannot be removed after an operation to straighten crossed eyes. The operation will have absolutely no effect on the amount of the far-sightedness. It is aimed at correcting the position of the eyes only. The child will be just as far-sighted after the operation as before it. Therefore, there will be just as much need for glasses

to correct the far-sightedness after the operation as before. If a child is very slightly or even moderately far-sighted, often the glasses may be removed after an operation only if fusion has developed. If the child is very far-sighted, he would need glasses whether the eyes were crossed or not and will continue to need glasses after an operation.

"Why do glasses which are prescribed for far-sightedness often blur vision?" Glasses take the load off the ciliary muscle in the far-sighted person, but since this muscle has had overwork for years it is not going to relax overnight and let the glasses do the focusing. It takes from two days to two weeks for this, depending upon how badly the person needed the glasses in the first place. Until the ciliary muscle does learn to relax, the person is made near-sighted and thus distant objects become blurred. When the ciliary muscle relaxes and allows the glasses to do the work which they were intended to do then objects are seen clearly at a distance.

"How often is it necessary to change the glasses of a child with crossed eyes?" A far-sighted child whose eyes cross, whether the glasses straighten the eyes partially or completely, should have his eyes examined at intervals of at least every six months. This does not necessarily mean that the glasses are changed every six months but it means examining the eyes to see whether or not the glasses do need changing. The far-sighted child tends to outgrow some of his far-sightedness because his eyes are small. If the eye grows the far-sightedness becomes less. Glasses which correct the far-sightedness today may be too strong six months from now because the child will have grown some, his eyes will have grown some and his far-sightedness will have decreased some.

Often the question is asked, "Do people whose eyes cross see double?" The answer is that they do not. The reason they do not see double is that their brain has learned to ignore completely the image coming from the crossing eye. A child whose eyes cross undoubtedly sees double for a short time but the situation is so confusing and uncomfortable that the brain quickly learns the trick of ignoring or suppressing images coming from the crossing eye. This is known as suppression and the unused eye suffers from lack of use.

"Why is it necessary for children with crossed eyes to wear a patch over one eye for several months and what does it accomplish?" A conditioned reflex is a reflex, something done automatically, which occurs every time the conditioning stimulus is repeated. The blindness of disuse in a crossing eye is a conditioned reflex and the conditioning stimulus for this developing blindness in the crossing eye is looking at things with the good eye. To break this conditioned reflex the good eye must not be used at all. Patching the good eye accomplishes two things: (1) It does away with the conditioned reflex which made the crossing eye lose vision in the beginning; and (2) it strengthens vision in the crossing eye by forcing its use.

Patching the good eye a few hours a day is only a waste of time. It must be patched from the moment the child awakens in the morning until he goes to sleep at night. This is the only way in which the blindness of disuse may be overcome.

"What are eye exercises?" Orthoptics is the medical term for eye exercises. When eye exercises are prescribed, it means exercises which will help the patient along toward the ultimate goal of two straight eyes working together as a team. Eye exercises are of no value whatever unless they are carried out in such a fashion that the eyes learn to see together as a team. Orthoptic exercises have two goals: First, the destruction of abnormal retinal correspondence, and second, the development of fusion. Unless fusion powers can be built up to a normal level, there is no guarantee that the eyes will remain straight even after operation.

"Is an operation for crossed eyes dangerous and will an operation on one eye bother the sight of the other, and will it improve the vision of the eye operated on?" The sur-

geon who assures the patient that there is absolutely no danger in an operation for crossed eyes is not quite correct. There is a risk in any operation, but in the case of the one for crossed eyes, it is very small. Children are usually operated upon under general anesthesia. Adults are frequently operated upon under local anesthesia. The operation will not affect the vision in the eye operated on nor will it affect that of the unoperated eye.

"Are both eyes ever operated on at the same time?" It is sometimes necessary to operate on both eyes at the same operation, although only one eye is ever crossed at any one time. It is seldom possible to straighten crossed eyes which are markedly crossed in a single operation or by operating on just one eye.

"How early in life can the treatment of crossed eyes be started?" The treatment of crossed eyes, without exception, should begin as soon as the eyes are noted to cross. In the infant this usually amounts to nothing more than the alternate patching of first one eye then the other in order to prevent the development of the "blindness" of disuse. In the young child the treatment is usually the prescription of glasses and the patching of the crossing eye. If surgery is needed, a child should have the benefit of an operation as soon as an adequate diagnosis can be made. This is usually around three or four years of age. If at all possible, the eyes should be straightened before the child is five and one-half to six, when his fusion powers would normally reach their full development. Other reasons have already been enumerated for straightening the eyes early.

Eyes are a team, a most remarkable team. It is entirely possible to keep this team working properly in the vast majority of children if they are intelligently cared for.

REFERENCES

1. Scobee, Richard G.: A Child's Eyes. St. Louis, C. V. Mosby Co., 1949.

2. Spaeth, Edmund B.: Principles and Practice of Ophthalmic Surgery. Lea and Febiger, Philadelphia. (1948).

3. Roth, Edith: Squints and orthoptic treatment. Am. J Ophth. 30:748 (June) 1947.

4. Smith, James W.: The problem of strabismus in childhood. Am. J. Ophth. 31:85 (Jan.) 1948.

5. Oaks, L. W.: Squint amblyopia: Am. J. Ophth. 33: 1103 (July) 1950.

6. Lancaster, J. E.: The learning process in orthoptics. Am. J. Ophth. 32:1577 (Nov.) 1949.

7. Costenbader, Frank; Bair, Dorothy, and McPhail, A.: Vision in strabismus. Arch. Ophth. 37:504 (April) 1947.

8. Burian, Hermann M.: Sensorial retinal relationship in concomitant strabismus. Arch. Ophth. 37:504 (April) 1947.

9. Brown, E. V. L.: Refraction of strabismic eyes. Arch. Ophth. 44:357 (Sept.) 1950.

OTITIS EXTERNA*

ALBERT L. McQUOWN, M. D.†

BATON ROUGE

Otitis externa is one of the most common diseases which brings patients to the otorhinolaryngologist and comprises from 5 per cent to 40 per cent of their practice. The anatomical pathologist seldom sees these patients as external otitis is rarely fatal or terminal and only occasionally is a biopsy taken. On the other hand, the clinical pathologist, if he develops interest in the condition, can, through cooperation with the otorhinolaryngologist or the physician treating the patient, aid greatly in the specific diagnosis of this chronic infection and determine specific therapy.

These inflammatory conditions of the external canal are usually classified by their clinical signs and symptoms (Table 1).[1] The etiologic agent, on the other hand, is often ignored; yet one organism can produce furunculosis, cellulitis, or perichondritis. The cure for otitis externa is the elimination of that specific organism. Improper treatment results in further excoriation, exudation, and secondary infection.

The external ear is covered by squamous epithelium in its entire membranous, cartilagenous, and osseous portion and tympanic membrane. The pH is acid. Bacteria and fungi may remain dormant in the osseous portion but some species like *Pseudomonas aeruginosa* are never found in normal ears.

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†Co-director, Department of Pathology, Our Lady of the Lake Sanitarium, Baton Rouge, La., and Clinical Assistant Professor, Department of Pathology, Louisiana State University School of Medicine, New Orleans, La.

TABLE 1
CLASSIFICATION OF EXTERNAL OTITIS

A. Acute inflammation
  1. Furunculosis
  2. Cellulitis
  3. Erysipelas
  4. Perichondritis
  5. Thrush
  6. Impetigo
B. Chronic inflammation
  1. Acne
  2. Cellulitis
    (a) Mycotic infections
      (1) Actinomycosis
      (2) Coccidioidomycosis
      (3) Blastomycosis
      (4) Cryptococcosis
      (5) Moniliasis
      (6) Aspergillosis
      (7) Penicilliosis
      (8) Mucormycosis
      (9) Epidermomycosis
  3. Perichonditis
  4. Parasitic organisms
C. Chronic specific inflammation
  1. Syphilis
  2. Tuberculosis
  3. Sarcoidosis
  4. Leprosy
  5. Leishmaniasis
  6. Frambesia
  7. Tularemia

Any physical agent that destroys the intact epithelium or changes the pH of the osseous portion may cause the dormant organisms, or organisms introduced at the time of trauma, to produce external otitis. The first stage is inflammation, swelling, exudation and pain, followed by necrosis and suppuration. The entire external canal may be involved and spread by excoriation to the auricle.

ISOLATION OF CAUSATIVE AGENT

The causative organism should be isolated. The recovery of this organism in pure culture is practically impossible if the external canal is simply swabbed out. A simple technique developed by McLaurin will produce pure cultures in the majority of cases.[2] The method is as follows: A quick scrub detergent is used to clean the hands. Sterile cotton is wrapped around the end of a metal applicator. The greatest quantity of the exudate and debris is removed from the external canal by using suction with a Frasier tip. The attic and tympanic membrane is cleaned by suction using a malleable McLaurin aspirator. The cotton tipped applicator is then gently placed in the canal and the remaining exudate in the osseous portion removed. The culture media is immediately streaked with this exudate at the time of removal. This technique is relatively non-painful, is easy, and pure cultures can be expected. Our laboratory supplies a stoppered glass tube with a slant of brain heart infusion agar for this type culture. This media will support the growth of a majority of organisms. It is easily made and the cork or rubber stopper keeps the media moist.

The causative organism is then identified by routine bacteriological and mycological methods. A sensitivity plate is set up as soon as growth is obtained using the disc type of sensitivity testing. Since the external ear is readily available to therapy and any concentration of specific medication can be instilled, we use the higher concentration discs in our sensitivity tests. All the familiar antibiotics and chemotherapeutic agents are tested including a few of the proprietory drugs. The latter drugs are dropped on blotter paper discs that have previously been cut. They are placed on the media desired. The sensitivity plates are read in twelve to eighteen hours. Specific treatment can be instituted while the cultures are being identified.

In a brief series of cases of external otitis we have recovered the organisms shown in Table 2. Their reaction to the an-

TABLE 2
ETIOLOGIC AGENT IN OTITIS EXTERNA

Bacteria:	
Micrococcus pyogenes, var. aureus	62
Paracolon bacilli	12
Aerobacter aerogenes	10
Streptococcus pyogenes	10
Pseudomonas aeruginosa	8
Alcaligenes fecalis	4
Klebsiella pneumoniae	2
Proteus vulgaris	2
Proteus mirabilis	2
Diphtheroids	1
Fungi:	
Aspergillus niger	2
Mucor mucedo	2
Penicillum spinulosum	2
Total:	118

tibiotics were similar to those found by other investigators. There have been several cases in which the organism recovered was not sensitive to any antibiotic a self respecting member of that group should be, but it was sensitive to an antibiotic or chemotherapeutic agent that ordinarily is considered of little value in treating that organism. The use of the indicated therapeutic agent gave prompt healing of the inflammation.

TREATMENT

Treatment in brief consists of two factors: (1) keeping the external canal dry, and (2) applying the proper therapeutic agent in the correct concentration. The latter is determined by the sensitivity tests. The former is accomplished by irrigating the ear with any nonirritating solution of a neutral or acid pH. Tap water is satisfactory if the canal is left dry. The canal is then kept dry by the p. r. n. insertion throughout the length of the canal of a long dry absorbent cotton wick. These wicks are rolled by hand and inserted into the canal by the aid of a tooth pick.

Using this method of treatment, external otitis is rapidly cured, as a specific therapeutic agent is placed in contact with the causative organism, and the canal is kept dry of excoriating and macerating exudates.

CONCLUSIONS

1. External otitis is most often a bacterial infection and a single organism is the etiologic agent.

2. The exudate to be cultured must be obtained carefully and be streaked immediately on the media.

3. Sensitivity of the causative organism is easily determined and regulates therapy.

4. The external canal must be kept clean and dry at all times.

REFERENCES

1. Eggston, A. A. and Wolff, D.: Histopathology of the Ear, Nose and Throat, The Williams and Wilkins Company, Baltimore.

2. McLaurin, J. W.: Principles of therapy in otitis externa, Laryngoscope, 61:66 (Jan.) 1951.

3. McLaurin, J. W.: The local application of "Sulfamylon" in otitis externa and chronic otitis media, Laryngoscope, 58:1201 (Nov.) 1948.

SPONTANEOUS RUPTURE OF THE ESOPHAGUS: CASE REPORT*

WILLIS P. BUTLER, M. D.
T. R. SIMPSON, M. D.

SHREVEPORT

Spontaneous rupture of the esophagus was first reported in 1724, by Boerhaave, a Dutch physician. Until 1946, there had been only 50 cases reported. Barrett, in reviewing the literature, in 1946, noted that none had survived. In 1947, Barrett reported a case that was successfully treated by operation. Since this report there have been a number of recoveries following early diagnosis and operation.

ETIOLOGY

The etiology of this condition is not known. In cases reported several factors that may produce the condition have been noted. An increase of intraesophageal pressure, brought on by forceful vomiting, straining, or external trauma to the abdomen or thorax has been observed in all the cases studied. Beal, in 1949, reported a case due to violent coughing.

The rupture of the esophagus usually occurs in the lower one-third. Studies have shown that the esophagus is not as strong structurally in this region as in the middle and upper portions. Microscopic studies of the ruptured portion do not reveal any pathological lesions about the site of the rupture. After the esophagus ruptures there is a resulting mediastinitis and pleuritis.

SYMPTOMS

The symptoms produced by the rupture are often confusing. The patient presents the picture of acute shock that could be caused by either an intrathoracic or upper abdominal lesion. Some cases have the appearance of an acute coronary occlusion. Others appear to simulate a ruptured peptic ulcer and several cases reported were operated on for an abdominal condition before the esophageal lesion was discovered. However, there is a triad of symptoms that have been fairly constant in all of these cases studied. There are (1) rapid respira-

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tion, (2) rigidity of the abdomen, (3) crepitus in the neck.

TREATMENT

The treatment of ruptured esophagus is early operation. Although the patient is in acute shock, operation should not be delayed as all the cases that have recovered were operated on as soon as possible after the diagnosis had been established.

CASE REPORT

As far as we know there has not been a case of spontaneous rupture of the esophagus reported from Shreveport. As these cases are not seen very often, and too, as there has been considerable investigation of esophageal lesions in the last few years we thought it would be well to report an additional case.

F. P. C., white male, 37 years of age, was transferred to the Caddo Parish jail from a neighboring parish. He had been confined to jail for being drunk. He was extremely violent and before leaving town had been given a hypodermic injection, probably morphine. It took six men to hold him and put handcuffs on him. He broke the cuffs on the way to Shreveport. He arrived at the jail at 1:20 P. M., September 10, 1950. As he was very violent he was placed in solitary confinement. He continued to be very violent and raved until about midnight, at which time the trusties state that he became quiet. Between 5:30 and 6:30 A. M., one of the trusties looked in the cell and saw him lying motionless on the floor. The jailer was notified and upon entering the cell found him dead. He was found lying face down. There was a large amount of vomitus on the floor about the body. Several blood clots were noted in the vomitus. Upon turning the body over, there was marked cyanosis of the head, face, and upper chest.

The body was taken to the morgue and an autopsy was performed. The autopsy revealed a white male, six feet tall, weighing about 200 pounds. Rigor mortis was complete. There was marked lividity over the chest, neck, and face. Both eyes were congested and there was hemorrhage into the anterior chamber of the left eye. Upon opening the chest cavity, in the left pleural cavity, there were approximately 300 cc. of bile stained fluid. Both lungs were partially collapsed. On sectioning, the left lung showed a large amount of thin aspirated mucus filling the main stem bronchus and scattered throughout the bronchial tree. This mucus was sufficient to cause obstruction. There was no consolidation, infarct or atelectasis. The right lung showed a similar condition but to a less marked degree. The esophagus was exposed and examined. Beginning just above the opening in the diaphragm, there was a longitudinal tear, extending 5 cm. upwards on the anterior surface. The edges of the wound were slightly jagged. Pressure on the stomach was followed by an escape of fluid through the opening in the esophagus. The wall of the esophagus was very thin in this area but did not show any gross pathology. There were no ulcerations or varicosities. The heart was normal in size. The myocardium showed gross evidence of myocarditis. On sectioning, the liver showed fatty changes without cirrhosis. The stomach was dilated and contained about 200 cc. of bile stained fluid. The rugae were flattened. There were numerous petechial hemorrhages and ecchymotic areas of the mucosa. There were no ulceratons noticed. Both kidneys showed marked congestion.

Microscopic studies were made of the liver, heart and kidneys:

Liver — slight cirrhosis with marked fatty changes. Architecture destroyed, changes probably due to alcohol.

Heart—Chronic myocarditis.

Kidneys—Hemorrhagic glomerular nephritis.

Specimens of the stomach contents, blood and urine were taken for alcohol analysis:

Blood alcohol	0.10 per cent
Stomach alcohol	0.07 per cent
Urine alcohol	0.08 per cent

COMMENT

This man was a known alcoholic for twenty years. The history shows that he was extremely violent. It is our opinion that while confined to the jail he became nauseated and vomited on several different occasions. The forceful vomiting caused a spontaneous rupture of the esophagus. The findings of the ruptured esophagus follows several previous cases reported in which it had been noted that these patients had been on a protracted drinking spell, had become nauseated, and had vomited violently. It is our opinion that this death was due to the aspiration of mucus and vomitus into the lungs following spontaneous rupture of the esophagus.

REFERENCES

1. Clifton, E.: Spontaneous rupture of the esophagus, report of two cases: One with recovery after surgical repair. Ann. Surg. 130:1006, 1949.

2. Dunavant, D., and Skinner, E. F.: Spontaneous rupture of the esophagus, Surgery 29:527, 1951.

3. Gardner, C. M.: Spontaneous rupture of the esophagus, Arch. Surg. 59:710, 1949.

4. Kraeft, N. H. and Hughes, Felix A., Jr.: Rupture of the normal esophagus, report of a case with recovery following unusual complications. Surgery, 31:291, 1952.

5. Beal, J. M.: Spontaneous rupture of esophagus. Ann. Surg. 129:512, 1949.

CREEPING ERUPTION (LARVA MIGRANS)* AT KEESLER AIR FORCE BASE

JOHN M. KNOX (CAPT. USAFR, MC)
KEESLER AIR FORCE BASE, MISS.

Since the classical presentation of creeping eruption was made, in 1926, by Kirby-Smith, White and Dove,[1] I will begin my discussion with their description of this disease.

Creeping eruption is characterized by a linear, tortuous, and serpiginous eruption caused by the migration of a nematode parasite within the skin and accompanied by intense itching. The most recent visible lesion is a very narrow erythematous formation along the course traversed by the worm. Soon a slightly raised line representing the location of the burrow can be palpated. This line becomes visibly elevated, more or less continuous and vesicular. Sometimes bullae are formed. The surface of the lesion dries, resulting in a thin crust. When the parasite travels it moves from a fraction of an inch to several inches a day, advancing, as a rule, more rapidly at night.

Following the penetration of the skin the parasite apparently remains at the point of entry before migrating, resulting in a reddish, sensitive papule not unlike that of the bites of chiggers. From these points the advancing threadlike burrows may be observed within from two to four days. The raised portion of the skin over the burrow has the appearance of that made by a mole in meadows and elsewhere. The end most distant from the parasite may be 0.5 cm. in width and may sometimes give the lesion a tapering appearance. Abrupt changes in the direction of the burrow are frequently observed. The migration has been observed on a number of occasions to have continued for several weeks, and some observations indicate that the larval migration is interrupted by periods of rest. Often the scratching results in bacterial infections and raw surfaces. The lesions can occur on every part of the body; however, since infections take place on those portions coming in contact with the soil, the lesions occur most often on the feet, buttocks, and hands.

PRESENCE OF THE DISEASE ON THE MISSISSIPPI GULF COAST

At Keesler Air Force Base we saw 22 cases of creeping eruption during the year 1951. This base is located on the Mississippi Gulf Coast at Biloxi. In a review of the literature we found no report of creeping eruption in the region of the Gulf Coast of Mississippi. Several physicians in this area, including the dermatologist, reported that they see creeping eruption in their practice.

Although exact figures cannot be given there are approximately 45,000 individuals who are eligible for treatment in our dispensaries and clinics. This includes military personnel and their dependents. Because these people are prompt to come to us for medical attention, we feel that we saw almost every case of creeping eruption that occurred in this group. This is interesting because it should give a good index to the incidence of the disease per 1000 people in the area. From the above we can estimate that annually there is approximately one case of creeping eruption per 2,000 persons on the Mississippi gulf coast.

DIAGNOSIS

The disease presents itself in the classical textbook description in a very high percentage of the cases; therefore, the diagnosis of creeping eruption is usually not difficult. No other disease can produce the typical serpiginous burrow that day by day advances from one end. Itching, almost invariably present, is usually intense. The only difficulty in diagnosis is that many doctors have never seen the disease and a diagnosis of creeping eruption is never considered.

However, a small percentage of the cases can be diagnosed only by the most careful observer. These fall into three groups: (1) vesicular and bullous, (2) urticarial, (3) erythematous. The most common case of this type is one in which the onset is acute

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and the chief manifestation is one of vesiculation and bullae formation. These can easily be mistaken for a dermatitis venenata and possibly for a bullous erythema multiforme or bullous drug eruption. Usually an occasional burrow can be found that will make the diagnosis evident. Another type to look for is one in which urticarial lesions develop at the site of entrance of the larvae. The urticarial response seems to inhibit the motility of the larva and burrows may be minimal or absent. An erroneous diagnosis of urticaria, insect bites or ground itch may be made. This clinical picture is seen when the patient reports promptly for treatment and has had mulple larvae penetrate the skin. Burks[2] states that he has seen cases of generalized urticaria produced by an allergic response of the body to the presence of one or more larvae.

The erythematous type may have only a deep erythema at the site of entrance of the larva. Rigdon[3] describes a typical lesion of this type in discussion of his daughter's case. A positive diagnosis of creeping eruption cannot be made until a typical burrow is found at some other site or later in this lesion.

A fourth type of creeping eruption case in which the diagnosis is sometimes difficult may occur in any of the above disease patterns. These are cases in which excoriations, crusts, pyoderma, cellutitis, or overtreatment obliterate the normal appearance of the disease. Fortunately the percentage of the atypical cases is small.

ETIOLOGY AND INCIDENCE

The larvae *Ancylostoma brazileinse* and *A. caninum,* the dog and cat hookworm, have been proven to be the causative parasites in this region. Kirby-Smith, White and Dove,[1] White and Dove,[5] and Shelmire,[6] did excellent work in demonstrating both clinically and experimentally that this larva produced creeping eruption. It is 1/50 of an inch long and 1/1000 of an inch wide.

The Southern endemic area begins in Florida and extends along the coastal states as far north as Maryland or New Jersey and as far west as Texas. The only inland states reporting cases of creeping eruption in significant numbers are Oklahoma and Arkansas. Occasional cases are reported from other states. The incidence is highest in Florida.[17] The other states with a high incidence are the Carolinas and Georgia.

Creeping eruption, which is world-wide in distribution, is not caused by this larva alone. Other larva that are reported to produce the disease with some degree of frequency are *Gnathostoma* (pig and cat nematode), *Gastrophilus* (botfly), and *Hypoderma* (warble fly grub). Characteristically, when one of these larva is producing the disease there is only one penetration, one track, and one larva. Multiple lesions and penetrations are not seen. Occasional cases are caused by the above larvae and these are usually in widely separated areas. Cases due to *Ancylostoma braziliense* have been reported from North America, Central America, South America, Africa, India, the East Indies and the Philippines.

HISTOPATHOLOGY

Histopathologically the larva and burrow are found in the prickle-cell layer. The larva is usually coiled and the burrow contains many swollen degenerating epithelial cells. In the corium there is some perivascular infiltration of lymphocytes and eosinophils.[7, 1]

TREATMENT

The treatment of choice has not definitely been established. The question to be decided is if systemic treatment is superior to topical applications. To most observers there is only one topical treatment that can be considered as satisfactory—freezing with ethyl chloride or carbon dioxide snow. Shelmire was the first to advocate this type of therapy and it has withstood the test of time.

Various other forms of topical therapy reportedly used with success have been as follows: Injections of phenol, iodine, chloroform, benzene, etc.; applications of tincture of iodine followed by ammoniated mercury ointment; onion poultices; electro-dessication; x-ray; incision followed by the application of a cauterizing solution such as phenol or nitric acid; and excision of the le-

sion. There have been reports recommending the use of each of the above methods; however, for one reason or another they have not proven to be as satisfactory as freezing with ethyl chloride. Most of them were either painful, produced a severe reaction, were disfiguring, or were ineffectual.

Even the most ardent advocates of topical treatment with ethyl chloride admit that it is not satisfactory treatment when scores of lesions are present. Therefore, a good drug for systemic treatment of this disease would be welcome. On reviewing the literature we found that fuadin, an antimony compound, had been recommended by Smith,[8] Wilson,[9] Rubin,[10] and Dolce and Franklin.[11] However, after reading far less favorable reports by Blank,[12] Hitch,[13] and Hailey,[14] we decided that this drug must not be exceptionally beneficial.

Stibanose, a new antimony compound, was reported by Wilson,[19] to be the most satisfactory treatment that he had found. We have not used this drug, but I am certain that it warrants clinical investigation.

Recent reports by Loewenthal[15] and van de Erve[16] were favorable to the possibility that hetrazan (diethylcarbomazine) might be specific for this disease. Loewenthal used a dosage of 2 mgm. per kg. three times a day and cured 7 of 8 cases in two to three weeks of therapy.

Using ethyl chloride freezing at three to five day intervals, we satisfactorily cured 8 cases with from one to five treatments. Some of these had more than one larva, but none had more than six. All patients were cured in less than four weeks. We were next faced with a man who had approximately one hundred lesions. Freezing with ethyl chloride was impracticable. At this time we obtained a small supply of hetrazan and he was given 150 mgm. three times daily. When there was no improvement in two weeks we increased the dosage to 150 mgm. four times daily. After another week there was still no improvement and the patient had become quite disturbed over the condition. Although continuing hetrazan, we began freezing some of the lesions with carbon dioxide snow at forty-eight hour intervals. In two weeks all of the lesions were inactive. The patient was not impressed with the role hetrazan played in his cure.

During this period we treated 5 other patients with the hetrazan, but only in conjunction with ethyl chloride freezing. Although we had no definite control group, the disease course apparently was not shortened by adding hetrazan to the freezing method. Therefore, we prescribed no more hetrazan and continued the freezing. Results were consistently good.

We wish to state that with our limited experience using hetrazan we were not trying to evaluate its effectiveness. We were only thinking of curing our patients speedily and safely. Etteldorf and Crawford[18] report that hetrazan can be given without toxicity in dosages up to five times as great as the 2 mgm. per kilogram three times daily that we used. Loewenthal[15] after curing 7 of the 8 cases in three weeks with 2 mgm. per kilogram thrice daily suggested that better results might be obtained by using 6 mgm. per kilogram. We will give hetrazan a more thorough trial at some future date.

SUMMARY

1. Cases of creeping eruption are present in significant numbers on the Mississippi Gulf Coast.

2. The diagnosis, incidence, etiology, histopathology, and therapy are reviewed and discussed.

3. Freezing with ethyl chloride is still the treatment of choice.

4. Hetrazan or stibanose may or may not prove to be specific systemic therapy.

REFERENCES

1. Kirby-Smith, J. L., Dove, W. E. and White, G. F.: Creeping eruption, Arch. Dermat. & Syph. 13:137 (Feb.) 1926.

2. Burks, James: Personal communication.

3. Rigdon, R. H.: Creeping eruption with spontaneous remissions and recurrences, J. Pediat. 16:637 (May) 1940.

4. Ormsby, O. S., and Montgomery, H.: Diseases of the Skin, Philadelphia, Lea and Febiger, 1948, p. 1244.

5. White, G. F. and Dove, W. E.: The causation of creeping eruption, J. A. M. A. 90:1701, 1928.

6. Shelmire, B.: Experimental creeping eruption from a cat and dog hookworm (*A. braziliense*), J. A. M. A. 90: 1701, 1928.

7. Sandler, I. L.: Creeping eruption, Med. Ann. District of Columbia 7:245 (Aug.) 1938.

8. Smith, D. C.: Treatment of creeping eruption with sodium antimony biscatechol (fuadin), J. A. M. A. 123:

694 (Nov. 13) 1943.
9. Wilson, J. F.: The treatment of creeping eruption with fuadin, J. Florida M. A. 30:425, 1944.
10. Rubin, S. S.: Creeping eruption, J. A. M. A., 124: 668, 1944.
11. Dolce, F. A., and Franklin, J. E.: Results with treatment with fuadin, Arch. Dermat. & Syph. 52:174, 1945.
12. Blank, H.: Use of fuadin in creeping eruption, J. A. M. A., 123:989, 1943.
13. Hitch, J. M.: Systemic treatment of creeping eruption, Arch. Derm. & Syph. 55:664, 1947.
14. Hailey, H.: Treatment of creeping eruption, South. M. J., 39:371, 1946.
15. Loewenthal, L. J. A.: Treatment of sandworm disease with hetrazan, South African M. J., 74:999.
16. van de Ervo, J.: Investig. Dermat. 12:69, 1949.
17. Kirby-Smith, J. L.: The treatment of creeping eruption, South. M. J. 28:999 (Nov.) 1935.
18. Etheldorf, J. N. and Crawford, L. V.: J. A. M. A., 143:797, 1950.
19. Wilson, F. J.: The treatment of larva migrans with stibanose, South. M. J. 45:127 (Feb.) 1952.

DISCUSSION

Dr. James W. Burks, Jr., (Gulfport, Miss.). Military medicine, through its study of large numbers of individuals from all parts of the United States congregated in rural sites, has made many noteworthy contributions in the field of Public Health. Dr. Knox is to be congratulated on his excellent and timely contribution.

Westward spread of this disease has become apparent to me in my practice on the Mississippi Gulf Coast where from mid-May to October each year I see the disease in increasing numbers. Heretofore, this disease was considered a Florida problem. Until recently, creeping eruption was seldom seen by the New Orleans dermatologist. For instance from 1944 through 1950 five cases came through my office: three had been in Florida for vacations; two had acquired the disease in Harvey, Louisiana. In 1951, numerous cases were seen by New Orleans dermatologists.

The Public Health aspects of this disease become apparent when we view the new twenty-six mile sand beach in the rapidly growing resort area of the Mississippi Gulf Coast.

CUTANEOUS BLASTOMYCOSIS*

A REPORT OF FIFTY-EIGHT UNPUBLISHED CASES

JAMES K. HOWLES, M. D.
NEW ORLEANS
CHARLES I. BLACK, M. D.
BATON ROUGE

American blastomycosis is a distinct clinical entity caused by a specific etiological agent—*Blastomyces dermatitidis*. It is one of the most formidable of the fungus infections and is also referred to as North American blastomycosis, oidiomycosis, Gilchrist disease and blastomycetic dermatitis. This disease falls into the group of diseases commonly referred to as infectious granulomas. The general term "blastomycosis" at once suggests lesions produced by blastomycetes, or budding fungi

Blastmycosis, like moniliasis, may be divided into two types: (a) localized or cutaneous and (b) systemic. The latter type usually has a grave prognosis and is characterized by pulmonary involvement and widespread distribution in oral cavity,[1] bones,[2-4] joints, internal organs,[5-7] and the central nervous system.[8-10] The cutaneous form is manifest as a subacute ulcerating process.

CLINICAL PICTURE

The clinical picture of cutaneous blastomycosis (Gilchrist) is the occurrence of a papulo-pustule which crusts and by peripheral spread forms an elevated, sharply marginated, verrucous and crusted patch. Removal of crusts reveals a pus-infiltrated base covered by irregular papillary elevations. These papillary growths are frequently very vascular and bleed easily with only slight trauma. Occasionally the base of the lesion may resemble an ordinary ulcer with exuberant granulations.

Perhaps the most typical and diagnostically significant characteristic is the violaceous, or purplish red, smooth, sloping border which is pin-pointed by miliary abscesses that appear as yellow points. The number of these small abscesses is related directly to the activity of the lesion. The lesions usually grow very slowly. The clinical course is irregular, but tends to chronicity.

Autoinoculation is thought to occur and in many patients multiple lesions are present. The subjective complaints vary. Except in those areas which are acutely inflamed or secondarily infected, pain is usually slight or absent. When healing occurs, either spontaneously or as a result of treatment, there is a gradual flattening and disappearance of the papilliform elevations by absorption, desiccation, and exfoliation. The seropurulent exudate diminishes and the

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From the Department of Dermatology and the Department of Microbiology, Louisiana State University School of Medicine.

base of the lesion is replaced by a hypertrophic scar, later becoming soft, atrophic and pinkish white.

Multiple subcutaneous nodules are a more common and characteristic finding of systemic Gilchrist disease. These lesions are usually deep seated, but as they enlarge they approach the surface. Eventually, they soften and break down forming crusted and discharging ulcers or fistulous tracts leading to deeper parts of the subcutaneous tissue, muscle or bones. However, subcutaneous nodules and abscess may be seen in cutaneous blastomycosis and are referred to as of the gummatous type.

As indicated, the primary cutaneous disease follows a benign and subacute or chronic course. Only very rarely does systemic dissemination occur. Neither does it tend to spread to the regional lymphatics. The most frequently involved areas are the exposed parts—face, hands, wrists and forearms.

Man presumably acquires his infection from some outside source, and although proof is lacking, the natural host is apparently in nature. Most texts speculate with reference to soil, flora and fauna. That the infecting fungus appears in nature as a saprophyte has been suspected. Excavations, surface soil or grasses, thorns and branches of plants, dark cellars, rotting wood, and intimate contact with animals or carcasses have been suggested as sources of infection. Stober advanced the theory that the natural habitat was on damp rotting wood. He supported his contention by the isolation of a mold from wood in the living quarters of one of his patients. Three instances of infection in the dog have been reported.[11-12]

The disease is not considered contagious, but there are reports of its acquisition by long contact with an infected person, and two cases are reported in brothers. The only proven case of transmission from person to person was in a physician who developed a lesion at the site of a puncture wound received while performing an autopsy.[13]

The infectious nature has been shown by successful inoculation of animals.[14-16] Experimental intraperitoneal infection in the guinea pig, and a rapidly fatal systemic infection in mice have been produced. Attempts to produce cutaneous blastomycosis in mice have been unsuccessful.[17] The production of lesions on the chorio-allantoic membrane of the chick embryo by inoculation with the yeast form has been reported.[18] Earlier Goodpasture[19] had mentioned the susceptibility of the chick embryo to certain fungi.

It has been stated that there is no relation between the disease and sex, nativity, occupation or habits of the affected persons.[20] However, others consider it a possible occupational hazard in agriculturists, cattle handlers, florists, and mill and grain workers.[21] Many cases have a history of antecedent trauma which may be contributory. The differential diagnosis includes cancer, late syphilis, tuberculosis, granuloma inguinale, bromoderma, ioderma, and other deep fungus infections and other granulomas.

DIAGNOSIS

The diagnosis can be established by the direct microscopic demonstration of the *B. dermatitidis* in the miliary abscesses, biopsy examination revealing the organism, by culture, or by animal inoculation. The diagnosis cannot be confirmed without the demonstration of the organism, although perhaps either a positive complement fixation test or skin test to blastomyces vaccine may justify a presumptive diagnosis. Excision for biopsy is not contraindicated.

The histopathologic diagnosis of the disease with its etiological agent present in the lesions is highly acurate.[22] Other yeastlike organisms are distinctive in sections.

Under the microscope is seen an extreme amount of irregular acanthosis which results in irregular downgrowth of the epidermis. Throughout the epidermis are miliary abscesses with polymorphonuclear leukocytic cells, giant cells, erythrocytes and debris. The blastomycete may be either within the giant cells or free in the abscess. In the subepidermal layers the cellular reaction may be acute or chronic. Giant cells here are usually few, and the infiltrate is

made up of lymphocytes, epithelioid cells, plasma, and mast cells.

The pathological reaction often resembles tuberculosis and the finding of the organism is the only way to differentiate between blastomycosis and tuberculosis. The *B. dermatitidis* appears in tissue as a single-budding, spherical yeastlike cell with a thick refractile outer wall. It may be found in miliary abscesses (either within or without giant cells), between the epidermal cells, or scattered through the corium. There is a varying degree of spongiosus in the prickle-cell layer. Epithelial whorls and pseudo-epitheliomatous hyperplasia may be present. This feature may be misleading and if the appearance of the budding cells is not noted a diagnosis of superficial epithelioma may be erroneously made.

The organism may be grown in pure culture from the minute deep seated miliary abscesses at the margins of the verrucous lesion. In blood agar, or dextrose agar at 37°C, the growth is yeastlike, remains wrinkled, waxy, and reproduction occurs by the budding process similar to those seen in lesions. On Saboraud's glucose agar media at room temperature the growth is cottony, moldlike, and grows brown with age. The branching, filamentous hyphae produce small, ovoid, lateral spores which are either sessile or on short stalks.

A comparative study of cultures of *B. braziliensis* and *B. dermatitidis* has shown them to be of sufficiently similar characteristics to place them in the same genus.[23] Their differences culturally and clinically are considered of a specific rather than a generic importance.

As previously mentioned, intraperitoneal or intravenous inoculation may be used as an aid to diagnosis. Following inoculation into the peritoneal cavity infection develops in the liver, lungs, spleen, and lymph nodes in about three weeks. Fresh material from these lesions will reveal the budding organism.

THERAPY

The multitude of treatment regimes which are advocated speaks for the fact that no single medication or combination of methods is the one of choice. Clinical response has been claimed for ether in oil instilled rectally,[24] intensive sulfonamide therapy,[25] penicillin,[26] sulfapyridine solution locally,[27] and many others. On the other hand, penicillin and streptomycin have been reported to have no effect on *B. dermatitidis* and perhaps to even stimulate it.[28, 29]

Only the smallest of lesions may be surgically excised. Roentgen therapy alone has been advocated. It is claimed that x-ray stops activity in spreading borders, eliminates secondary infection, hastens regression of the chronic inflammatory reactions, and prior desensitization is not required. Large dosages of potassium iodide and superficial x-radiation in combination with good general medical treatment is probably the regime of choice.

Before therapy with potassium iodide is instituted it should be determined by complement fixation and skin testing whether the patient is hypersensitive to the organisms. Patients with positive skin tests should be desensitized before being treated with iodides. Smith[30] states that with neither positive skin tests nor complement fixation antibodies, the patient should be actively immunized with a heat-killed vaccine before iodide treatment.

Prognosis depends partly on extent of infection and partly on the immunologic response. It is best in patients with positive skin tests and no serum antibodies, and poorest in presence of a high titer complement fixation and a negative skin test.[30] Recurrences are common. However, the clinical response under iodides alone is so good that the addition of superficial radiation should completely erase the disease.

REPORT OF CASES

A most excellent and exhaustive report on blastomycosis was made, in 1939, by Martin and Smith.[31, 32] Their study included 80 proven cases from the literature and 13 new ones from North America. Since that report the first proved case of Gilchrist disease (cutaneous) in Europe has been claimed.[33] Seven other cases have been reported in Canada.[34-35] Other series have

also been recorded in the United States.

In a twenty-year period, 1930-1949, 58 proven cases of primary cutaneous blastomycosis have been seen at Charity Hospital of Louisiana at New Orleans. All are previously unpublished. Approximately 300 cases of deep mycoses of all types were reviewed. Of this number only 58 with diagnosis of blastomycosis were substantiated, presented cutaneous lesions which were cutaneous primarily, and in which the clinical description and history were adequate for presentation. In the 9 patients with systemic lesions also, the systemic spread was considered to have occurred secondarily.

Most of these patients had lesions on exposed areas of the body. In order of involvement were the head and neck, hands and forearms, and the legs to a much lesser extent. Our series shows significant numbers of patients in the occupational groups of day laborer and occupations related to wood or wood products (Table 1). Sixteen (or 27 per cent) gave histories of employment in lumber or related industries. Nine of these had received scratches or puncture wounds. Three others (not included in these 16) had received trauma from shrimp-tail, injury on plow, and scratch from garbage can lid.

The oldest patient in this series was 75 years and the youngest 9 years. Both had cutaneous involvement only. Two others were of school age. Martin and Smith have stated that no systemic infections have been described in a patient under 12 years or over the age of 70. However, the age distribution is considerably wider in infections essentially limited to the skin. Table 2 shows age incidence.

Males are much oftener infected with blastomycosis than are females. This fact is probably due to their more frequent exposure to infection by occupation, etc. In our series the ratio of male: female was 4.3:1 Martin and Smith reported a more extreme ratio of 9:1. Forty-eight per cent of our series was in the white race. A considerable portion of white patients were of foreign extraction with French and Italian predominating. Fifty-two per cent were Negro (Table 3).

Gilchrist disease is essentially limited to North America. It is reported in 28 states

TABLE 1
OCCUPATION

Domestic	8	Lumber Worker	9
Farmer	8	Other	6
Day Labor	22	Unknown	5
		Total	58

Patients with occupation related to lumber or wood products, or of injury caused by such—16

TABLE 2
AGE INCIDENCE

Age	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	?	Total
Male			9	13	9	10	6			47
Female	1	2	3	1				2	2	11
Total	1	2	12	14	9	10	6	2	2	58

TABLE 3
RACE AND SEX

Race	Total	% Total	Male	% Male	Female	% Female
Total	58	100%	47	81%	11	19%
White	28	48%	22	79%	6	21%
Negro	30	52%	25	83%	5	17%

and Canada. As previously mentioned, a single case has been reported from Europe. Fifty-five of the patients in this series were residents of Louisiana; one each from Texas, Alabama and Mississippi. Analysis of the map of the State of Louisiana (Fig. 1) will reveal that all but 4 of the cases

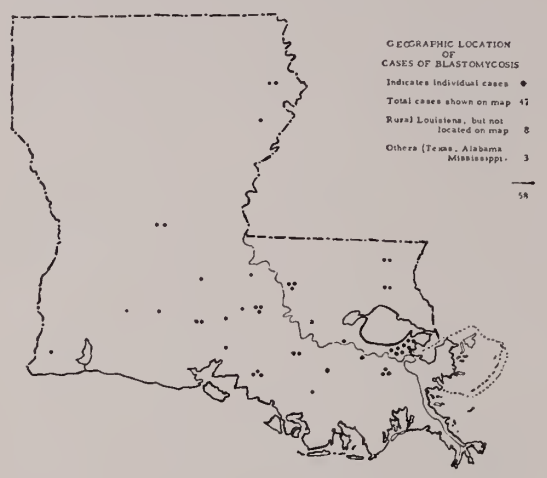

Figure 1

which could be accurately located are from the southern parishes which border along the Gulf Coast and particularly along the lower Mississippi River. We feel that this possibly has significant meaning—this area is characteristically warm, low, humid, and abounds in timber, particularly cypress. Also a great portion is swamp or marshy land.

Table 4 shows how the diagnosis was substantiated in the cases in this series. Table 5 indicated that some patients sought medical care early in the course of the disease. However, a large number had lesions for longer than twelve months before being seen by a physician, and 9 patients did not seek medical aid until five years or more had elapsed after the appearance of the cutaneous lesion.

Some of the patients who had sought medical care were treated for furuncles, verrucae, epitheliomata, or syphilitic lesions. The three patients whom we have seen most recently had been under treatment elsewhere with diagnosis other than blastomycosis. These facts impress us that the physician in general is not alert to the presence of the disease.

Table 6 summarizes the types of treatment employed in these 58 patients. The number of patients in each grouping is not great enough to draw any definite over-all conclusions. However, it is noted that the patients who were treated by combined iodide and x-radiation regime responded well. The one death noted in this group was a generalized furuncle-type of infection and was caused by a fulminating toxemia.

SUMMARY

A brief review of literature and a summary of 58 previously unpublished cases of primary cutaneous blastomycosis has been presented. Nine patients in this series had cutaneous and systemic lesions. The systemic lesions were considered to be secondary to the cutaneous infection. Almost one-third of the patients were employed in lumber or related industries. The sex ratio is 4.3:1 more frequent in the male. It is suggested that the hot, humid climate, and the topography of this region may have a very

TABLE 4
DIAGNOSIS SUBSTANTIATED BY

	Cases		Cases
Direct exam. only	14	Autopsy only	3
Culture only	0	Biopsy and autopsy	3
Biopsy only	23	Direct, culture and autopsy	2
Direct and culture	2	Direct, biopsy and autopsy	1
Direct and biopsy	5	Direct, culture, biopsy and autopsy	1
Culture and biopsy	2	Unknown	2

TABLE 5
DURATION OF DISEASE PRIOR TO SEEKING MEDICAL CARE

Less than 1 mo.	1 mo.	2 mo.	3 mo.	4 mo.	5 mo.
4	2	8	6	2	....
6 mo.	7 mo.	8 mo.	9 mo	10 mo.	11 mo.
....	4	....	....	....	2
1 yr.	2 yr.	3 yr.	4 yr.	5 yr.	5 yr. plus
4	6	4	4	1	8

Unknown—3

TABLE 6
REVIEW OF TREATMENT

	Cured	Improved	No Change	Died	Died - Other Causes	No Information - Lost To Follow-up	Cutaneous Lesions Only	Cutaneous and Systemic Lesions	Total
Iodides	4	4	1	6	2	....	13	4	17
X-radiation	5	1	..	..	....	1	7	....	7
Surgery .. .	1			1	....	1	2	1	3
Iodide-Xradiation	7	6		1	....	2	16	....	16
Iodides-Surgery .			1	1	....	....	1	1	2
Xradiation-Surgery	2				....	....	2	....	2
Surgery-Desinsitization			2	.	...	...	2	....	2
Supportive Measures Only.			.	3	....	1	1	3	4
Type of Treatment Unknown.	1	3		.	...	1	5	....	5
Total	20	14	4	12	2	6	49	9	58

definite bearing on the incidence of the disease here. Definite conclusions cannot be made as to the value of any one mode of treatment, although it appears that the combined use of iodides and superficial x-radiation was most effective.

REFERENCES

1. Erich, J.: Blastomycosis of oral cavity and nose; case, Am. J. Orthodontics (Oral Surg. Sect.) 33:604 (Aug.) 1947.

2. Colonna, P. C., and Gucker, T.: III. Blastomycosis of skeletal system; summary of 67 recorded cases and case report, J. Bone & Joint Surg. 26:322 (April) 1944.

3. Alfred, K. S., and Harbin, M.: Blastomycosis of bone; report of a case, J. Bone & Joint Surg. 32-A:887 (Oct.) 1950.

4. Jones, R. R., Jr., and Martin, D. S.: Blastomycosis of bone; review of 63 collected cases, of which 6 recovered, Surgery 10:931 (Dec.) 1941.

5. Moore, M., and Halpern, L. K.: Blastomycosis involving prostate; report of 2 cases, one with and one without cutaneous lesions, J. Urol. 60:612 (Oct.) 1948.

6. Thompson, G. F., Sullivan, M. J., and Fox, P. F.: Blastomycosis of cecum; case, Am. J. Surg. 57:369 (Aug.) 1942.

7. Botvinick, L.: Blastomycosis of skin and prostate, Arch. Dermat. & Syph. 62:936 (Dec.) 1950.

8. Friedman, L. L., and Signorelli, J. J.: Blastomycosis; a brief review of the literature and a report of a case involving the meninges, Ann. Int. Med. 24:385 (March) 1946.

9. Greenwood, R. C., and Voris, H. C.: Systemic blastomycosis with spinal cord involvement: case report, J. Neurosurg. 7:450 (Sept.) 1950.

10. Cabot case 25292: Generalized blastomycosis with meningitis, New England J. Med. 221:111 (July 20) 1939.

11. Foshay, L., and Madden, A. G., Jr.: Dog as natural host for *Blastomyces dermatitidis*, Am. J. Trop. Med. 22:565 (Sept.) 1942.

12. Seibold, H. R.: Systemic blastomycosis in dogs, North American Veterinarian 27:162, 1946.

13. Evans, N.: Clinical report of a case of blastomycosis of the skin from accidental inoculation, J. A. M. A. 40:1772, 1903.

14. Baker, R. D.: Experimental blastomycosis in mice, Am. J. Path. 18:463 (May) 1942.

15. Heilman, F. R.: Production of rapidly fatal blastomycosis in mice for testing chemotherapeutic agents, J. Invest. Dermat. 9:87 (Aug.) 1947.

16. Nelson, L. M.: Experimental reactions of American blastomycosis in guinea pig, J. Invest. Dermat. 5:257 (Oct.) 1942.

17. Hitch, J. M.: Experimental blastomycosis in mice, J. Invest. Dermat. 5:41 (Feb.) 1942.

18. Meyer, E., and Ordal, Z. J.: Action of streptothricin and other antibiotic agents on *Blastomyces dermatitidis* infections of chick embryo, J. Infect. Dis. 79:199 (Nov.-Dec.) 1946.

19. Goodpasture, E. W.: Some uses of chick embryo for study of infection and immunity, Am. J. Hyg. 28:111 (July) 1938.

20. Ormsby, O. S., nad Montgomery, H.: Diseases of the Skin, Philadelphia, 1948, Lea & Febiger.

21. Schwartz, L., Tulipan, L., and Peck, S. M.: Occupational Diseases of the Skin, Philadelphia, 1947, Lea & Febiger.

22. Baker, R. D.: Tissue reactions in human blastomycosis; an analysis of tissue from 23 cases, Am. J. Path. 18:479 (May) 1942.

23. Conant, N. F., and Howell, A., Jr.: Similarity of fungi causing South American blastomycosis and North American blastomycosis, J. Invest. Dermat. 5:353 (Dec.) 1942.

24. Fishman, J.: Systemic blastomycosis, with a new form of therapy (ether), U. S. Nav. M. Bull. 43:758 (Oct.) 1944.

25. Albert, M.: Note on case of blastomycosis cured by sulfapyridine and sulfathiazole, Brit. J. Dermat. 55:294 (Dec.) 1943.

26. Benedek, T.: Blastomycosis, Gilchrist, North American type; the first case on record successfully treated with penicillin; with a survey of the literature concerning the treatment of deepseated mycosis by penicillin and/or sulfonamides, Urol. & Cutan. Rev. 53:216-220 (April) 1949.

27. Noojin, R. O., and Callaway, J. L.: Action of sulfonamide compound on *B. dermatitidis* in vitro, Arch. Dermat. & Syph. 47:620, 1943.

28. Littman, M. L., Wicker, E. H., and Warren, A. S.: Systemic North American blastomycosis; report of case with cultural studies of etiologic agent and observations

on effect of streptomycin and penicillin in vitro, Am. J. Path. 24:339 (March) 1948.

29. Keeny, E. L., Ajello, L., and Lankford, E.: Studies on common pathogenic fungi and on *A. bovis*. In vitro effect of penicillin, Bull. Johns Hopkins Hosp. 75(6):410, 1944.

30. Smith, D. T.: Immunologic types of blastomycosis; a report on 40 cases, Ann. Int. Med. 31:463 (Sept.) 1949.

31. Martin, D. S., and Smith, D. T.: Blastomycosis; review of literature, Am. Rev. Tuberc. 39:275 (March) 1939.

32. Martin, D. S., and Smith, D. T.: Blastomycosis; 13 new cases, Am. Rev. Tuberc. 39:488 (April) 1939.

33. Brody, M.: Blastomycosis. North American type: proved case from European continent. Arch. Dermat. & Syph. 56:529 (Oct.) 1947.

34. Starrs, R. A., and Klotz, M. O.: North American blastomycosis; analysis of Canadian reports and description of new case of systemic type, Arch. Int .Med. 82: 29 (July) 1948.

35. McLaren, J. A., North American blastomycosis, Canad. M. A. J. 60:26 (Jan.) 1949.

DISCUSSION

Dr. Chas. Barrett Kennedy (New Orleans): Blastomycosis has been too much neglected by the medical profession as a whole since it was first recognized as a clinico-pathological entity by a dermatologist, Gilchrist, fifty-eight years ago. I enjoyed Dr. Black's fine word-picture of the disease. I have always wanted to know what the incidence of this disease was, in our own endemic area. Doctors from other areas have often sought that information from us. Dr. John Lamb, who was just recently a guest of our Louisiana Dermatological Society, said that he had never had an opportunity to see so many cases of deep mycotic infection at any one time at a skin meeting, and repeatedly urged us to collect, publish, and review them. I regret that this paper is not being presented before a more diversified group.

A brief look at the very recent issues of the cumulative index shows increasing interest in this disease by other specialties. A recent issue of the Journal of Urology reports a case whose presenting complaint was pyuria, with the fungus first found microscopically in the wet prostatic secretion. No cutaneous lesions were present at that time, although they appeared later.

I agree with the authors that iodides and x-ray are the methods of choice in treatment. I have had little experience with desensitization. At the New Orleans Veterans' Hospital, one cases of blastomycosis with lung involvement was unimproved on 800 drops of iodides daily. Prodigiosin was of no value in this case, but 250 cc. of convalescent hyperimmune serum was of most decided benefit.

I note in Dr. Black's summary that he feels that the systemic lesions were secondary to the cutaneous ones. I have personally observed some of the cases presented in his series, and have felt very definitely that the reverse was sometimes true.

CURRENT THERAPY OF SEVERAL COMMON SKIN DISEASES*

R. H. ROBINSON, M. D.

LAFAYETTE

The past decade and a half have seen revolutionary changes in the practice of the art and science of medicine. In the thirties, the advent of the sulfa drugs changed radically the prognostic outlook of many infectious diseases. In the forties, penicillin, streptomycin, and other antibiotics widened greatly this already benefited field. Now, also, with adrenal cortex[1] hormonal studies we see radical changes in outlooks of allergic and some of the less clearly understood diseases, such as rheumatic fever and lupus erythematosus.

Dermatology and syphilology have advanced with the other specialties along these same lines. The practice of our specialty has seen marked improvements thanks to the above and other revelations.

SYPHILIS

To most of us syphilology is a fast disappearing specialty. In the past three years, I have seen but one chancre and three secondary manifestations of syphilis. An occasional old "burned out" case with still positive serology is referred for opinion and evaluation. Penicillin has changed the method of treatment of this disease from a horrible nightmare of years to a matter of a few days. Different authorities recommend widely differing schedules of treatment but one method widely agreed as effective is a schedule of penicillin injections of 6,000,000 units.[2] Some authorities recommend more, others believe that bismuth and arsenicals[3] are indicated. It should be emphasized that this is for primary, secondary, or early latent syphilis. Fever therapy is still used at some institutions for central nervous system[4] lues. Aureomycin,[5] chloromycetin, and terramycin have been used experimentally with encouraging results. Aureomycin seems to have shown the best record thus far. One should keep this in mind for the occasional penicillin sensitive indi-

*Presented at the Seventy-second Annual Meeting of the Louisiana State Medical Society, Shreveport, April 30, 1952.

vidual but the new hypo-allergic[6] penicillin compounds have done much towards decreasing the number of reactions seen.

Prophylactic injections of penicillin after exposure have been[7] used extensively and positive serologic responses many months later are surprisingly low. Skeptics, however, warn that this procedure may only mask the disease and that serious visceral complications may not show up until many years later.

Syphilis is a disease that is apparently as old as modern civilization[8] and we must not shrug it off as being conquered until many more years of study are completed.

FUNGUS INFECTIONS

In this more or less subtropical country fungus infections are extremely common We see the epidermophytosis of feet, hands, tinea of groins, body, and tinea capitis almost daily. In my experience one of the greatest mistakes commonly made is to overtreat these conditions, resulting in secondary contact dermatitis and secondary infection—especially on feet and hands. Secondary infection should subside under soothing soaks and compresses, antibiotic ointments such as bacitracin, and sulfa and antibiotics by mouth if necessary. Tineal infections plus secondary infection may result in severe "id" reactions which may be very hard to control. Again, I say caution is the rule. After infection is controlled there are innumerable preparations on the market for tinea. I favor several fatty acid preparations such as sopronol, timofax, desenex, and others, such as quinolor compound ointment, vioform, and spergon. Asterol has been reported as very effective in scalp tinea.[9] We treat scalp cases by plucking individually infected hairs while they fluoresce under the Wood's light. Tinea versicolor responds well to ultraviolet light, hypo scrubs, and asterol creme.

ACNE

This scourge of youth has been markedly benefited in recent years. While no means limited to, it is to a great degree a disease of adolescents. The etiology of acne remains a little obscure but it is definitely a metabolic disturbance. Androgenic substances and the steroid hormones[10] frequently produce an acneiform eruption. The halogens also are commonly contributory. Some investigators are enthusiastic about stilbesterol[11] orally, estrogens orally or parenterally or incorporated into ointments. My personal experience with these has been rather disappointing. The sulfa and antibiotics are of frequent value in severe cystic acne. Andrews[12] frequently gives sulfa for long periods of time, either alone or combined with terramycin. Sulphur is still quite popular and several drug houses have put flesh tinted sulphur and resorcin compound ointments on the market.* Several companies make them in varying shades and strengths making the messy, greasy, colored and colorless ointments less necessary and improving morale and cosmetic appearance of the patient while under treatment. I do not believe this should ever be underestimated. Intra-derm[13] sulphur is a preparation in a wetting agent for greater absorption of deep lesions. I feel it has its place but do not use it routinely. Of course, the older treatments with x-ray and ultraviolet light must not be forgotten but should be reserved for the discretion of the specialist.

Seborrheic dermatitis, I mention along with acne, as the two are often associated. I routinely treat the scalp in acne, whether I see anything or not. The advent of selenium sulfide (selsun suspension) I find to be a valuable one, but plodding along with the traditional tar, sulphur, ammoniated mercury, salicylic acid, and resorcin preparations still are valuable. Here again the advantages are mainly in cosmetic advances. Colorless and well odored preparations add to cosmetic appearance and morale. Certain dietary restrictions, such as chocolates, cola drinks, and iodized salt, are of value here as in acne. Seborrheic dermatitis of ears, eyebrows, ali-nasi and other common sites is benefited by compresses and antibiotic ointments. At this time I am a little enthusiastic about polymyxin. Drying and soothing lotions help relieve pruritis.

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*Smith-Kline-French, Ar-Ex, Almay, Texas Pharmacal Co.

HAND AND OTHER COMMON ECZEMAS

The common ever present problem of the housewives eczema of the hands is certainly worthy of mention here but the causative features would fill a book in itself. Contact factors are common.[14] Etiologic agents such as detergents, soap powders, feathers, sprays, paints, varnishes, oils, greases, and others are elicited with careful history. Avoidance of these is the first step in therapy.[15] Here, I would like to inject a note of caution—never have a patient wear rubber gloves next to the skin. It is frequently irritating. We use cotton lined or linen lined gloves for this purpose. The treatments are numerous, but one successful way for a chronic hand eczema is to use soothing compresses such as domeboro soaks, vioform creme, or some other soothing agent, an antibiotic, if necessary, and a antihistamine. X-ray or ultra-violet in very small doses is sometimes helpful, but must be watched, as these are drifters and may sometimes be found to be receiving treatments from several sources at the same time. I will discuss this further.

SCABIES AND OTHER PARASITIC INFECTIONS

The greasy, messy ointments of sulphur and similar preparations used for these annoying conditions have to a large measure given way to newer and nicer to handle preparations. Scabies can be handled with a 20 to 30 per cent emulsion of benzyl benzoate. I personally do not use it because of the large number of reactions to it. C.S.C. produces a preparation call kwell. This is 2 per cent hexachlorocyclohexane in a water soluble base that is most effective and two to three applications cure most patients. I have also found it most effective in all kinds of pediculi. "Geigy" produces a preparation called eurax that I have found of value but by no means 100 per cent effective. It is of considerable benefit because of the antipruritic action, which is good. Occasionally it is necessary to use sulphur. I use sulphur ppt., balsum of Peru, of each 5 per cent in a water soluble base, and apply to entire body twice daily for four days. Some prefer to use lotia alba during the day because cosmetically it is nicer.

Lupus erythematosus to the dermatologist usually means not one but two diseases for practical purposes. The acute and subacute disseminate lupus erythematosus are catastrophic diseases and are strictly a specialized problem. Here also, the use of ACTH and cortisone has greatly improved the prognosis of many in this grave condition. This benefit is dramatic but too frequently there is relapse when the drug is withdrawn. Maintenance dosage must be found and continued.[16]

Discoid lupus is an entirely different condition. Most of these patients are in good general condition and the purpose of their visit is for cosmetic reasons. The lesions are almost invariably present on the face, scalp, neck, or exposed areas. Many of them have previously been treated as "ringworm." Avoidance of solar radiation as much as possible is the first thing I tell my patients. Local treatment such as freezing with dry ice or ethyl chloride may be helpful in old intractible lesions. I still employ bismuth, gold salts, arsenicals, liver concentrate and vitamin B_{12}, by injection. Particularly, sun-sensitive individuals are given antihistamines and protective cremes. A-fil and skolex are examples. I do not advise x-ray and never ultraviolet. Recently a report on calcium pantothenate and vitamin E came out.[17] I have not used panthenol yet but intend to when it is stocked. We give vitamin E in doses of 100 to 1000 milligrams daily.

Pityriasis rosea is one of the common skin diseases and one commonly mistreated. It is easy to mistake the herald lesion for tinea, but once the generalized eruption occurs the diagnosis should be simple. Always exclude secondary lues by a routine serology in these cases. Ordinary tub baths are eliminated and spotty cleansing allowed. The occasional intensely pruritic case can have starch and soda or tar baths. A soothing lotion such as Schamburg's oily shake, or Pusey's calamine liniment are all that are needed locally. Antihistamines and sedation will control pruritis. Ultra-violet[18] light baths about twice weekly may abort or greatly reduce the duration of the condition

that normally lasts about two months.

Herpes zoster has been reported as successfully cleared with antibiotics such as chloramphenicol, aureomycin,[19] and terramycin. Also reported successful are injections of protamide.* Neither method has greatly impressed me, inasmuch as I have seen herpes develop while a patient was taking the antibiotic and be as explosive as any case without. Relief of pain is still our major problem and irradiation of dorsal ganglia is occasionally necessary. Herpes involving eyelids and face should also have an ophthalmologist in consultation because of the possibility of corneal ulcers accompanying the disease.

Herpes simplex of the recurrent variety is sometimes benefited by irradiation of the areas usually affected. Moccasin venom injections or repeated vaccination with smallpox vaccine may be also employed with success.

Contact dermatitis is one of the most commonly seen conditions in all branches of medicine. In medical men, technicians, nurses, and housewives, it is definitely an occupational disease. It may be due to soaps, detergents, rubber gloves, novocaine, penicillin, streptomycin, and a host of other causes. Careful checking and patch testing will sometimes reveal the cause but it must be remembered that a sensitized skin may react to a given agent, whereas a normal area on the same person may not. Lotions, ointments, cosmetics, flowers, plants are also frequent causes. Treatment is simple if you can find the offending agent but sometimes that is a person's livelihood. Protective gloves and ointments may help. If it is found to be a plant agent, a personalized vaccine may be given to desensitize the patient.

Drug eruptions are common, especially from penicillin, sulfa, and streptomycin. Any drug can cause reaction in a given individual but not in others. Some may cause so called "fixed drug" eruptions in which ingestation of this drug may cause an eruption in exactly the same area each time it is taken. Antipyrine and phenolphthalein are common offenders. In any of these conditions ACTH and cortisone may speed recovery and lesson morbidity. They are used in the same way as with dermatitis venenata or contact dermatitis.

We now come to one of the most pitiful of them all—infantile and/or atopic allergic eczema. These babies, first, are usually otherwise fat and healthy appearing, but the fat does not have a normal feel to it. An allergic diathesis may be manifested. There is usually history of eczema, hayfever, or asthma in the family—sometimes all three. There is often a marked sensitivity to eggs, wheat products, citrus fruits, and cow's milk products. There is also pronounced reaction to weather changes. It is discouraging to parents, patient, and physician to have a case of this doing well and flare up badly with a weather change, but that is one thing we cannot regulate so we have to do our best. Wool, feathers, and animal dander should be strictly avoided.

In severe weeping states soothing baths and compresses and mild lotions are used. Antihistamines and parenteral or supplementary vitamins are given to replace those eliminated in dietary restrictions. I like oatmeal baths as a soothing agent. Soap should not be used. The anogenital regions are cleansed with mineral oil which may be used to remove accumulated crusts. Later the coal tar preparations and or vioform may be used with success. Goat's milk or soy bean milk may be substituted for cow's milk. We often give ultra-violet, but rarely x-ray. Chronic cases of long standing may be benefited by the purchase of a home ultra-violet unit.

Lichen planus, dermatitis herpetiformis, and all pemphigoid conditions are merely mentioned. Their treatment and diagnosis may be quite difficult and should be reserved for the specialist. Other less common conditions are excluded because of a deficiency in time to explain them.

SUMMARY AND COMMENT

Again we say in dermatology, as in other fields of medicine, antibiotics, and sulfa

*Sherman laboratories.

drugs have found their place. Other new advances are mentioned.

REFERENCES

1. Sulzberger, Marion B.: Effects of ACTH and cortisone on certain diseases and physiologic functions of the skin, J. Invest. Dermat. 16:323, 1951.

2. Curtis, A. C. et al.: Penicillin treatment of syphilis, J. A. M. A. 145:1223, 1951.

3. Marin, Alberic, et al.: Treatment of early syphilis by a five week penicillin-mapharsen-bismuth schedule, Canad. M. A. J. 59:1 (July) 1948.

4. Epstein, N. N., et al.: Treatment of neurosyphilis with penicillin combines with artificial fever, Arch. Derm. & Syph. 60:543, 1951.

5. Kierland, R. R.: Oral treatment of neurosyphliis with aureomycin, Am. J. Syph., Gonor. & Ven. Dis. 34: 443, 1950.

6. Simons, S. William et al.: Hypoallergenic penicillin in oil. Arch. Derm. & Syph. 62:314, 1950.

7. Schoch, A. G. et al.: Abortive treatment of syphilis, Am. J. Syph., Gonor. & Ven. Dis. 33:429, 1949.

8. Howles, J. K.: Synopsis of Clinical Syphilis, C. V. Mosby Co., 1943, p. 35.

9. Stritzler, C., et al.: Treatment of tinea capitis with a new antifungal compound (Asterol) Arch. Derm. & Syph. 63:606, 1951.

10. Behrman, H. T., et al.: Skin complications of cortisone and ACTH therapy, J. A. M. A. 144:218-221, 1950.

11. Sulzberger, Marion B.: Hormones and acne vulgaris, M. Clin. N. America 35:373, 1951.

12. Andrews, George C.: Personal communication.

13. Noojin, R. O.: J. Invest. Dermat. 16:261, 1951.

14. Howell, J. B.: Eczema of the hands from wooden handled objects, Arch. Derm. & Syph. 62:400, 1950.

15. Pilsbury, Donald M.: Principles in dermatitis therapy, New England J. Med. 244:423, 1951.

16. Plotz, C. M. et al: Effect of pituitary adrenocorticotropic hormone (ACTH) in disseminated lupus erythematosus, Arch. Derm. & Syph. 61:913, 1950.

17. Wash, Ashton L.: Lupus erythematosus, treatment by combined use of massive amounts of calcium pantothenate or panthenol with synthetic vitamin E. Arch. Derm. & Syph. 65:137, 1952.

18. Wasch, J.: Dermatologica 101:243, 1950.

19. Finland, M.: Aureomycin treatment of herpes zoster, New England J. Med. 241:1037, 1949.

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CHEST PAIN ASSOCIATED WITH PULMONARY HYPERTENSION

Viar and Harrison* have presented a highly informative discussion on chest pain in association with pulmonary hypertension. This type of chest pain is not uncommon and is likely to lead to the erroneous diagnosis of coronary arterial disease. In articles by previous observers, this pain was discussed in relation to pulmonary arteriosclerosis, mitral stenosis, and pulmonary embolism. The authors quoted have extended these observations on chest pain and have found that conditions other than those mentioned may be associated with chest pain not originating in the heart. They give six illustrative case reports typical of the several groups considered, and observe that most of the patients with pain have had either (1) lesion of the mitral valve; (2) certain congenital anomalies of the heart; (3) primary diffuse disorders of the lungs, especially asthma and emphysema; (4) disorders of the pulmonary artery, and more particularly embolism. The common factor which seems to exist in all of these is evidence of the increased pressure in the pulmonary vascular circuit. From the discussion of case histories presented it is apparent that patients with pulmonary hypertension may have pain which is very similar to that produced by disease of the coronary arteries. The location, radiation, quality, and intensity of the two types of pain may be indistinguishable. The pain may be brought on by exertion and relieved by rest. Some patients may have prolonged bouts of pain, enduring for hours or days. In the six case reports there were three patients in whom electrocardiographic changes were prominent. In two of these, autopsy revealed no evidence of coronary disease. The authors note that in years past the error of mistaking coronary hypertensive pain for angina has been repeatedly made. They note that the differentiation, while difficult, and occasionally impossible, can usually be made if the syndrome of pulmonary hypertensive pain is kept in mind, and if sufficient care and observation be undertaken. The authors stress the importance of searching for a condition capable of causing pulmonary hypertension; that is, in the four groups of conditions mentioned above. They note that because of the low pulmonary arterial pressure in the tetralogy of Fallot, pain has not been noted in this condition. They also observe that not all patients with disorders reasonably

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*Viar, W. N., and Harrison, T. R.: Chest pain in association with pulmonary hypertension; its similarity to the pain of coronary disease, Circulation 5:1, (Jan.) 1952.

associated with pulmonary hypertension have the complaint of pain and it is rarely encountered in patients with pulmonary hypertension secondary to left ventricular failure.

In addition to these considerations, there are certain features which may serve as guides in differentiating the pain associated with pulmonary hypertension from that accompanying coronary disease. Long standing cough is present in many of the patients with pulmonary hypertension. Cyanosis, either persistent or intermittent, is apt to be present during episodes of pulmonary hypertensive pain. The opposite is apt to be true in patients with coronary pain. The pain of pulmonary hypertension is apt to be associated with dyspnea, while that of angina typically is not. Increase in pain on inspiratory effort may be present. This pain should be in the center of the chest rather than in the axillary areas. Presumably, this increase of pain may be due to the increased flow of blood into the chest during inspiration and a consequent rise in pulmonary pressure.

There is considerable variability in the duration of pulmonary hypertensive pain. By way of differentiation, the authors note that in coronary disease the pain frequently falls into one of three categories as regards duration: (a) pain lasting a few minutes only, induced by exercise and relieved by rest (angina); (b) pain lasting thirty minutes or longer occurring in repeated attacks and usually during recumbency, and soon leading to a fatal issue or to the typical clinical picture of myocardial infarction (status anginosus); (c) pain lasting several hours to several days and then disappearing completely (myocardial infarction). All of these patterns of pain duration may occur in the pain of pulmonary hypertension, but in addition, the pain of the latter condition may be associated with a steady substernal feeling of distention enduring for hours or days. The patient with status asthmaticus may have pain as long as the asthma persists.

Any evidence of right ventricular hypertrophy is suggestive of pulmonary hypertensive pain. Such evidence may be clinical, electrocardiographic, or roentgenologic. The authors feel that the presence of diffuse forceful pulsations over the whole left precordial area presents more evidence of right ventricular enlargement than is usually obtained by the other means.

Electrocardiographic changes may be clarifying in efforts at differentiation. The absence of electrocardiographic changes argues in some degree against myocardial infarction, but of course, not against angina. In cardiographic changes of cor pulmonale, pulmonary hypertension is suggested.

Evidences of tissue destruction, such as fever, leukocytosis, and rapid sedimentation rate, are expected in myocardial infarction, but they may also occur in pulmonary infarction. Striking relief of pain as the result of oxygen inhalation argues somewhat for pulmonary hypertensive pain.

The effect of drugs may be helpful in distinguishing the two types of pain. Adrenaline may induce or aggravate the pain of coronary disease and tends to relieve pulmonary hypertensive pain when bronchial asthma is the cause. Intravenous administration of aminophyllin may relieve either pain. Relief following oral or rectal administration is more likely to occur with pulmonary hypertensive pain. Nitroglycerine has minimal effect on pulmonary hypertensive pain. Its use helps to differentiate pulmonary hypertensive pain from angina, but not from myocardial infarction. The authors state that they are unwilling to make a positive diagnosis of angina pectoris in the absence of evidence of striking benefit from nitroglycerine.

As a group, the prognosis in patients with pulmonary hypertensive pain appears to be better than that for patients with pain from angina and coronary artery disease. Sudden death is less likely in the pulmonary group.

Consideration was given to the neurological aspects of the pain. It was suggested that the pain is similar to that of coronary disease because the nerve connections of the

pulmonary arteries are the same as those of the heart. It is also suggested that the increase of pain on effort is the result of increase in pulmonary pressure during exercise in disease states. The investigators showed there is a well marked rise in pulmonary pressure in persons with emphysema and mitral stenosis during exercise. It is probable from clinical observations and corollation with other data that the pain is produced on distention of the pulmonary arterial system. In support of this, may be cited an experience of another observer studying athletes who run short distances. Toward the finish, they put forth the utmost effort and during this sprint they experience sudden extreme chest pain. If this is unheeded they are apt to drop.

These observations on pulmonary hypertensive pain are most timely. In this day of increasing heart disease and of increasing public apprehension in regard to chest pain, the physician's diagnostic ability is taxed. Accordingly, realization of the significance and importance of pulmonary hypertensive pain will be most helpful.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

1953 ANNUAL MEETING

Under the direction of Dr. C. J. Brown, General Chairman of the Committees on Arrangements for the 1953 Annual Meeting, which will be held in New Orleans, May 7-9, plans are underway for the convention this year. Following is personnel of the various subcommittees and members are requested to contact these doctors concerning any phase of the meeting in which they are particularly interested or if they have suggestions to offer in regard to arrangements for the meeting.

Advisory—Drs. H. B. Alsobrook, Edgar Burns, Boni DeLaureal, A. V. Friedrichs, Val Fuchs, M. M. Green, Roy B. Harrison, E. L. Irwin, Edwin H. Lawson, Shirley Lyons, Leon J. Menville, Waldemar Metz, D. J. Murphy, J. Kelly Stone, H. Ashton Thomas, N. J. Tessitore, E. L. Zander.

Badges—Dr. J. T. Brierre, Chairman; Dr. Maurice Campagna, Vice-Chairman; Drs. Carroll Gelbke, Chris Bellone, Edmond Mickal, Louis Cabiran.

Banquet—Dr. W. Robyn Hardy, Chairman; Dr. Earl C. Smith, Vice-Chairman; Drs. Henry Butker, E. Garland Walls, Richard L. Buck, John J. Signorelli.

Decoration—Dr. Sam Houston, Chairman; Dr. Paul L. Getzoff, Vice-Chairman; Drs. Lawrence H. Strug, Homer J. Dupuy, Oscar Blitz, Morris Shushan.

Entertainment—Dr. Charles B. Odom, Chairman; Dr. Felix A. Planche, Vice-Chairman; Drs. J. O. Weilbaecher, Jr., Joseph S. D'Antoni, Edward Matthews.

Finances—Dr. George H. Hauser, Chairman; Dr. C. W. Mattingly, Vice-Chairman; Drs. Lucien A. Fortier, John J. Irwin, L. S. Charbonnet, Jr.

Golf—Dr. W. C. Rivenbark, Chairman; Dr. Jack Strange, Vice-Chairman; Drs. H. Ashton Thomas, Max M. Green, Joseph A. Vella, Roy de la Houssaye.

Hospitals—Dr. Wm. J. Rein, Chairman; Dr. E. L. Leckert, Vice-Chairman; Drs. Ernest Celli, Mayo L. Emory, W. P. Gardiner.

Hotels and Meeting Rooms—Dr. Branch J. Aymond, Chairman; Dr. Joseph Palermo, Vice-Chairman; Drs. M. Lyon Stadiem, Joseph Menendez, Frank Gambino.

Lanterns—Dr. W. H. Gillentine, Chairman; Dr. Howard R. Mahorner, Vice-Chairman; Drs. Ambrose Storck, Edward W. Nelson.

Luncheons—Dr. Wm. H. Roeling, Chairman; Dr. Eugene H. Countiss, Vice-Chairman; Drs. Lawrence O'Neil, John Oakley,

Frank Kinberger, Edward J. Joubert, Max M. Hattaway.

Publicity—Dr. Nicholas Chetta, Chairman; Dr. Jules Myron Davidson, Vice-Chairman; Drs. Ralph Hartwell, Eugene Vickery, Nicholas K. Edrington.

Registration—Dr. Joseph Ciolino, Chairman; Dr. J. C. Burns, Vice-Chairman; Drs. Robert Gillespie, J. M. Ciaravella, Joseph M. Brocato, Anthony Failla.

Scientific Exhibit — Dr. Edgar Hull, Chairman; Dr. James K. Howles, Vice-Chairman; Drs. Henry Ogden, Henry Duhe, Howard Karr, Jose L. Garcia-Oller, Louis A. Monte.

Signs—Dr. Abe Mickal, Chairman; Drs. Benjamin Morrison, Henry Larose, Paul B. Lastrapes, Leon Hart.

Technical Exhibit—Dr. Morell W. Miller, Chairman; Dr. Robert Sharp, Vice-Chairman; Drs. Lloyd J. Kuhn, Esmond Fatter, Bruno Mancuso, I. W. Kaplan.

Transportation—Dr. John Colclough, Chairman; Dr. Hugh T. Beacham, Vice-Chairman; Drs. Vincent Culotta, B. F. Danton, Jr., J. L. Fischman.

Woman's Auxiliary—Dr. Edwin R. Guidry, Chairman; Dr. Joel B. Gray, Vice-Chairman; Drs. Louis Leggio, Philip J. Carter, Hyder F. Brewster.

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VOLUNTARY PENSION PLANS

The following comes from the Committee on Legislation of the American Medical Association. In December, 1952 the House of Delegates at its Denver meeting reaffirmed its position advocating the enactment of legislation of this type. Our members should request the senators and congressmen from Louisiana to support these two bills. All out effort was made by our Congressional Committee to have the "Keogh-Reed" bills passed in the 82nd Congress. These are good bills and should merit our attention and support.

"During the first week of the 83rd Congress bills were again introduced to permit tax deferments on amounts used to purchase retirement annuities. These measures, H.R. 10 and H.R. 11, which were introduced by Mr. Jenkins of Ohio and Mr. Keogh of New York, are identical with the "Keogh-Reed" bills of the 82nd Congress. The bills are designed to encourage the establishment of voluntary pension plans by individuals and to provide more equitable tax treatment for self-employed persons. The bills in their present form now include all the amendments suggested by the American Medical Association at hearings on the original legislation last May.

"Through amendment of the Federal Internal Revenue Code, the bills would allow physicians and other self-employed individuals to deduct from their taxable income those amounts used each year to finance restricted retirement plans. Employed persons not covered by existing pension plans also would qualify for the tax deduction privilege.

"Income received later during the years of retirement, either from pension funds or insurance annuities, would then be taxable under the prevailing rates. In other words, they provide tax deferment but not tax avoidance.

"Physicians, dentists, lawyers, architects, farmers, store owners and the many others who comprise the nation's self-employed have long been neglected in federal tax legislation relating to pensions. The purpose of these bills is to eliminate the discrimination and inequities existing under present tax laws. By extending the tax deferment privilege to the country's ten million self-employed, and also to millions of employees who are not covered by pension plans, this new legislation will give them the incentive to save for old age during their best earning years.

"Under Section 165 (a) of the 1942 Revenue Act, millions of employees covered by more than 16,000 approved pension plans are already receiving the benefit of pension tax deferment. They pay no tax during their working years on the employer's contribution to their retirement fund, even though it actually is extra compensation to the employee. After he retires, however,

the employee must pay the tax on the part of the retirement benefit which was financed by the employer.

"To provide a similar tax arrangement for self-employed persons, the bills would allow annual deductions of 10 per cent of earned net income, or $7,500, whichever is smaller. Total deductions during the taxpayer's life-time could not exceed $150,000. The funds excluded from taxable income would have to be paid either to a trust fund established by an association for the benefit of its members or to an insurance company as premiums for a retirement annuity contract. In either case, no income payments or cash refunds could be made before the age of 65 except in cases of total disability or death.

"The bills include a provision enabling persons already between the ages of 55 and 75 to make larger annual deductions than the basic 10 per cent or $7,500. This is a practical equivalent to the past service credits allowed in many employee pension plans. The bills also provide for a carry-over of unused deductions for a period up to five years. This is designed to give equitable treatment to persons with extreme fluctuations in income.

"This legislation will be of particular benefit to physicians who go through a long and costly period of training and whose peak earnings are bunched into a comparatively short period of years when they are subject to high income tax rates.

"This legislation, which has the approval of the American Medical Association and twenty other national organizations, can be enacted by the 83rd Congress if physicians and all other self-employed persons work actively together for its passage."

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IMPORTANT

Those of you who may be interested in the chiropractic problem in our state would do well to secure a copy of "Science vs Chiropractic" published by the Public Affairs Committee, Inc. (22 East 38th Street, New York 16, N.Y.).

This article deals with the subject in a masterful manner, clearly outlining the unsupported claims of the chiropractic cultists and most forcibly presenting the proven findings exemplified by modern science as evidenced by known and accepted experimentation and verified by members of the medical profession, throughout this and other countries, in actual practice.

The advantages and disadvantages of licensing chiropractors are discussed quite fully, but in conclusion it states that whether chiropractors "are licensed or practice against the law, uninformed people will continue to patronize them just as they do bookmakers or fortune tellers and for the same reason; they do not realize that the odds are all against them."

This little booklet deals with the following subjects: basic science laws, chiropractic education, how the cult of chiropractic got its name, the chiropractic advertising campaign, legal hazards of chiropractic and where chiropractic and science disagree.

The pamphlet only contains twenty-nine pages and can be read by many of your patients in the waiting room or can be handed them to be read at home by them and by their friends. It will be a wonderful way to educate the public and support our all out campaign against these cultists, who at every session of the legislature try to have enacted legislation legalizing their practice in our state.

The cost of this pamphlet is only twenty-five cents and certainly each and every doctor should be only too glad to purchase a few of them for distribution among his patients, friends and legislators, thereby helping to keep these cultists out of our state, and it goes without saying that we sorely need your support in these efforts.

Thank you for your interest and cooperation.

LOUISIANA STATE MEDICAL SOCIETY NEWS

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Morehouse	Third Thursday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

LOUISIANA HEART ASSOCIATION WILL MAKE GRANTS FOR RESEARCH

The Louisiana Heart Asscociation announces that it will welcome requests for grants in aid for research in cardiovascular disease and in related fields. The deadline for receipt of requests is named as April 1, 1952.

Application blanks should be obtained from the office of Louisiana Heart Association and requests addressed to Dr. Russell Holman, Chairman, Research & Fellowship Committee, Louisiana Heart Association, Inc., Room 301 Balter Bldg., New Orleans, La.

A.M.A. PRESIDENT LISTS MEDICINE'S MAJOR OBJECTIVES FOR 1953

With the dawn of a new year, Dr. Louis H. Bauer, Hempstead, N. Y., president of the American Medical Association, outlined a constructive nine-point program for what he called "the preservation of our American system of medicine." His nine points, directed to all physicians and to all component societies of the A.M.A. are:

1. Work with rural communities to establish facilities for physicians, so that we shall have a better distribution of physicians.
2. See that good medical care for the indigent is available everywhere, just as it is in some states.
3. Extend public health coverage to areas lacking it.
4. Develop plans for the care of the chronic invalid.
5. Expand our voluntary insurance program, not only to cover more persons, but to cover those over age 65 and those suffering from illness of long duration.
6. Clean our own house, by disciplining those physicians who are tarnishing the reputation of the whole profession by their unethical acts of overcharging, accepting kick-backs, and making commercial arrangements with pharmacists.
7. See that the public is protected so that they can always obtain the services of physicians.
8. Revitalize our county societies and make them leaders in their communities in all health matters.
9. Inculcate the newly trained physicians in the tradition and ethics of medicine.

A.M.A. HOUSE OF DELEGATES ACTION ON FEDERAL MEDICAL SERVICES

After long debate, the AMA's House of Delegates adopted a resolution stating that the fundamental consideration of limiting the care of veterans in Veterans Administration hospitals to the two following categaries is sound: (1) to veterans with peacetime or wartime service whose disabilities or disease are service-incurred or aggravated and (2) to veterans with wartime service suffering from tuberculosis or psychiatric or neurological disorders of non-service-connected origin, who are unable to defray the necessary hospital expenses.

The resolution further comments that to discontinue the provision of medical care and hospitalization in VA hospitals for the remaining groups of veterans with non-service-connected disabilities cannot be accomplished without the cooperation of Congress, veterans organizations and the medical profession. The House of Delegates recommended that the AMA meet with representatives of veterans organizations, the American Hospital Association, American Dental Association, the Department of Defense, and the Veterans Administration to discuss problems and work out a satisfactory arrangement . . . rather than take action at the present time.

PATIENTS IN MENTAL HOSPITALS

The number of patients in State and county mental hospitals continued to increase, according to preliminary information on the annual census for 1950 compiled by the Public Health Service of the Federal Security Agency. The census is based on reports submitted by 201 State and 112 county mental hospitals to the National Institute of Mental Health.

A total of about 600,000 persons were under supervision of these hospitals in the United States at the end of 1950, the census report indicates, as compared with slightly over 580,000 in 1949.

SIXTH ANNUAL POSTGRADUATE COURSE IN DISEASES OF THE CHEST

The Sixth Annual Postgraduate Course in Diseases of the Chest sponsored by the American College of Chest Physicians, Pennsylvania Chapter and

the Laennec Society of Philadelphia, will be presented at the Bellevue-Stratford Hotel, Philadelphia, Pennsylvania, March 23-27, 1953.

This course will emphasize the recent developments in all aspects of the diagnosis and treatment of chest disease. The course is open to all physicians; however, the number of registrants will be limited.

The tuition fee is $50 and applications will be accepted in the order in which they are received. This course has been approved for credits by the American Academy of General Practice. Applications should be sent to the Executive Director, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.

OAK RIDGE COURSE IN AUTO-RADIOGRAPHY

An advanced course in autoradiography and three basic courses in radioisotope techniques are course offerings of interest to medical and biological personnel planned this spring and summer by the Special Training Division of the Oak Ridge Institute of Nuclear Studies.

The autoradiography course will be held from June 15-25, and basic courses of four weeks' duration will begin on June 8, July 6, and August 10.

The autoradiography course will be the second to be given at Oak Ridge, an earlier one having been given in the summer of 1951. It is intended for research level personnel using or planning to use this technique in their research.

Application forms and additional information may be obtained from the Special Training Division, Oak Ridge Institute of Nuclear Studies, P. O. Box 117, Oak Ridge, Tenn.

THE AMERICAN CONGRESS OF PHYSICAL MEDICINE AND REHABILITATION

The 31st annual scientific and clinical session of the American Congress of Physical Medicine and Rehabilitation will be held on August 31, September 1, 2, 3 and 4, 1953, inclusive, at the Palmer House, Chicago, Ill.

Scientific and clinical sessions will be given on the days of August 31 and September 1, 2 and 3. All sessions will be open to members of the medical profession in good standing with the American Medical Association.

In addition to the scientific sessions, annual instruction seminars will be held. These lectures will be open to physicians as well as to therapists, who are registered with the American Registry of Physical Therapists or the American Occupational Therapy Association.

Full information may be obtained by writing to the executive offices, American Congress of Physical Medicine and Rehabilitation, 30 North Michigan Avenue, Chicago 2, Illinois.

SOUTHWEST ALLERGY FORUM TO MEET

The Southwest Allergy Forum will meet at the Hotel Muehlebach, Kansas City, Missouri, June 14-15-16, 1953. The sessions are devoted primarily to papers on practical aspects of allergy. Those interested in participating in the program are invited to write the president, Dr. Orval Withers, Bryant Bldg., Kansas City 6, Missouri.

Members of the local committee are (besides Dr. Withers): Drs. Cecil Kohn, R. Dale Dickson, Frederic Speer, Stanley Goldman, Ralph Hale, Herbert Rinkel, and Vernon C. Wiksten.

Reservations should be made early at the Muehlebach; they may be cancelled if unforseen circumstances prevent attendance.

For information write: Frederic Speer, M. D., Sec. Treas., 2601 Parallel Ave., Kansas City, Kansas.

WOMAN'S AUXILIARY TO THE LOUISIANA STATE MEDICAL SOCIETY

EASING OF LOUISIANA NURSE SHORTAGE PREDICTED

Speaking before the quarterly meeting of the Second District Medical Society's Auxiliary, Mrs. T. E. Strain, president of the State Medical Auxiliary, predicted a lessening of the acute shortage of nurses in the near future. She pointed out that the state auxiliary is encouraging young women who have shown an interest in nursing as a career. Future Nurses Clubs are beginning to spring up in Louisiana high schools, Mrs. Strain said, and point to many new possible additions to the nursing field. The state president also outlined plans for observing Doctor's Day and for assisting in programs of the American Medical Association.

Following her talk, the Second District Auxiliary, which is composed of members from Jefferson, St. Charles, St. John the Baptist, and St. James Parishes, voted to contact school superintendents in their communities to arrange for members to speak before the junior and senior classes of the high schools.

ESSAY CONTEST IS OPENED

The 1953 National Essay Contest for high school students, sponsored by the Association of American Physicians and Surgeons was opened this month in Jefferson, St. Charles, and St. John the Baptist parishes. The auxiliary to the Second District Medical Society is conducting the competition, which offers the winner a $25 prize and the winner's school a $15 contribution to its library fund. The best essays will be considered for state and national prizes.

ORLEANS PARISH

An all-out nurse recruitment program, which begins in high school, is the Woman's Auxiliary to the Orleans Parish Medical Society's New Year's gift to the community, inspired by the critical shortage of "Women in White" the seriousness of which none knows better than the auxiliary. Future Nurses' Clubs will be launched in junior and senior high schools on a city-wide basis early this year. The foundation work has already been made by Mrs. Edwin Guidry, the auxiliary's 1953 president, and Mrs. J. Theodore Brierre (a former nurse) who is Nurse Recruitment chairman. They have made personal appearances with student nurses from the five local schools, and shown films and distributed literature about the "Women in White" in a few of the schools. Ten auxiliary leaders (former nurses), one for each senior and junior high school in the city have been named to launch the Future Nurses' Clubs. Student Nurses from Charity, Hotel Dieu, Touro, Mercy and Baptist hospitals will tell the Future Nurses about their training. Sponsors will work in close cooperation with school and nursing authorities on curriculum requirements and programs. For the first time the auxiliary is sponsoring a nursing scholarship in 1953 to put a worthy student through training.

LAFAYETTE PARISH AUXILIARY

The Lafayette Parish Medical Auxiliary has had interesting and well-attended meetings for the first few months of the 1952-53 term.

Beginning the fall activities, a benefit style show was sponsored by the auxiliary. All funds received were given to the Parish Polio Fund. This amounted to $542.50. In October the Auxiliary entertained the state auxiliary president, Mrs. T. E. Strain, with an informal tea given in the home of Mrs. J. Boring Montgomery. Also in October "treat day" was held for the patients of the tuberculosis hospital on the eve of Halloween. At the November meeting, Dr. Thomas Arceneaur, dean of the college of agriculture of Southwestern Louisiana Institute, presented colored pictures of French West Africa which he himself had taken when he went there as agricultural consultant for the Mutual Security Agency. The pictures with their explanation were most interesting and educational. The December meeting was a delightful Christmas party, at which time members brought gifts to be given to the St. Vincent De Paul Society for distribution to children for Christmas.

BOOK REVIEWS

The Pathogenesis of Tuberculosis; by Arnold R. Rich, M. D. 2d ed. Springfield, Ill., Charles C. Thomas, 1951. pp. 1028, illus. Price $15.00.

In this second edition Dr. Rich has brought up to date all the known factors entering into the natural course of tuberculous infection. In doing this, there is presented bibliographic material from which more detailed knowledge can be obtained on any one factor. The chapters of the tubercle bacillus have been brought up to date in presenting the material on the relation of chemical constitutents to pathogenesis, the different types of tubercle bacilli and the significance of the variations in types of tubercle bacilli.

There are six chapters on the significance of virulence and native resistance with a survey of all the known factors which may influence resistance to tubercle bacterial infection. Following are three chapters on orientation on the principles of hypersensitivity as applied to tuberculosis and there is an excellent group of chapters on the mechanism of acquired resistance. The discussion on factors that influence resistance is quite inclusive and includes the evaluation of pertinent literature up to the time of publication. The discussion of factors responsible for the characteristics of tuberculous lesions brings one up to date with current concepts.

The significance of the material presented in the monograph is well understood in reading Dr. Rich's interpretation of its presence in the health of our civilization. The application of material presented can be of great importance to the practicing physician, as well as those in the fields of public health and preventive medicine, since the monograph presents concepts and evaluations which previously had not been integrated.

JOSEPH E. SCHENTHAL, M. D.

PUBLICATIONS RECEIVED

Rutgers University Press, New Brunswick, N. J.: The Literature on Streptomycin, by Selman A. Waksman.

W. B. Saunders Company, Phila.: Operating Room Technique, from St. Mary's Hospital, Rochester, Minnesota (4th Edit.).

Charles C. Thomas, Publisher, Springfield, Ill.: Introduction to Physiological Optics, by Armin Von Tschermak-Seysenegg and translated by Paul Boeder, Ph.D.; Practical Blood Grouping Methods by Robert L. Wall, M. D.; Vitamins for Blood Formation, by Thomas H. Jukes, Ph.D.; The Biochemistry of Gastric Acid Secretion, by Edward J. Conway, M. D.; The Pharmacology of Anesthetic Drugs, by John Adriani, M. D. (3rd Edit.); Body Temperature, by W. A. Selle, Ph.D.; Visual Anatomy: Thorax and Abdomen, by Sidney M. Friedman, M. D.; Analgesia and Anesthesia in Obstetrics, by J. P. Greenhill, M. D.; A Vitamin Digest, by Guy W. Clark; Acute Renal Failure, by John T. Maclean, M. D.; Gynecology, Diseases and Minor Surgery, by Robert J. Lowrie, M. A., M. D.

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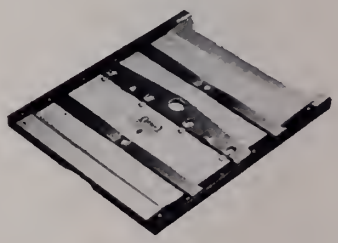

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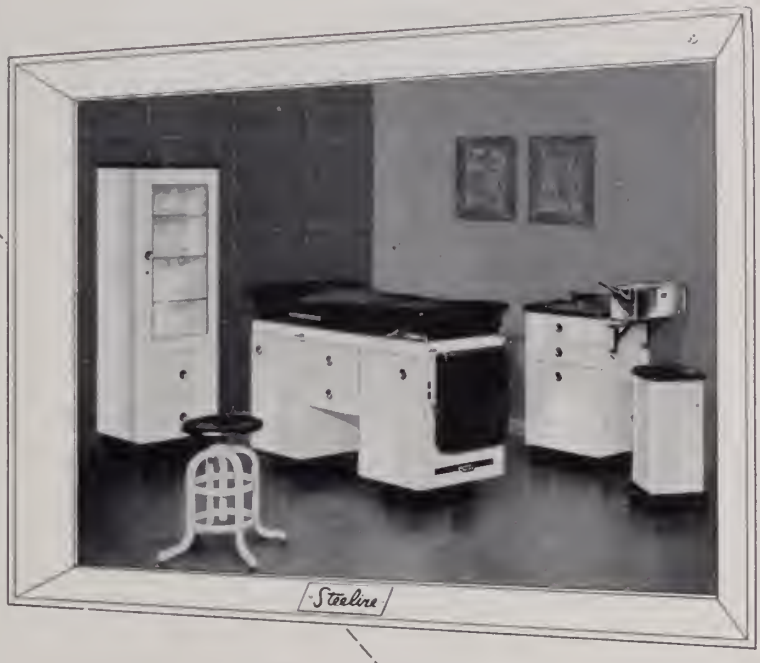

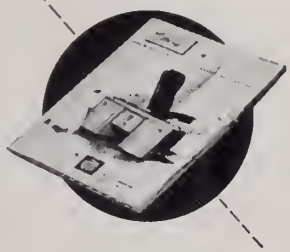

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REFERENCES

1. Ravdin, I. S., and Gimbel, N. S.: Protein Metabolism in Surgical Patients, J.A.M.A. *144*:979 (Nov. 18) 1950.
2. Mann, G. V., and Stare, F. J.: Nutritional Needs in Illness and Disease, in Handbook of Nutrition, American Medical Association, New York, The Blakiston Company, 1951, chap. 17.
3. Mills, C. A., and Cottingham, E.: Phagocytic Activity as Affected by Protein Intake in Heat and Cold, J. Immunol. *47*:503 (Dec.) 1943.
4. Cannon, P. R.: The Importance of Proteins in Resistance to Infection, J.A.M.A. *128*:360 (June 2) 1945.
5. Harvey, S. C., and Howes, E. L.: Effect of High Protein Diet on the Velocity of Growth of Fibroblasts in the Healing Wound, Ann. Surg. *91*:641 (May) 1930.
6. Co Tui, et al.: Hyperalimentation Treatment of Peptic Ulcer with Amino Acids and Dextri-Maltose, Gastroenterology *5*:5 (July) 1945.
7. Lund, C. C., and Levenson, S. M.: Protein in Surgery, J.A.M.A. *128*:95 (May 12) 1945.
8. Welsh, C. S.; Adams, M., and Wakefield, E. G.: Metabolic Studies on Chronic Ulcerative Colitis, J. Clin. Investigation *16*:161 (Jan.) 1937.
9. Cannon, P. R., et al.: Recent Advances in Nutrition with Reference to Protein Metabolism, Lawrence, Kansas, University of Kansas Press, 1950.
10. McLester, J. S., and Darby, W. J.: Nutrition and Diet in Health and Disease, ed. 6, Philadelphia, W. B. Saunders Company, 1952, p. 19.

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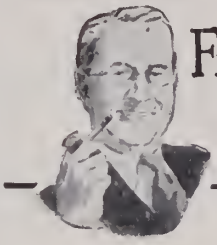

From where I sit
by Joe Marsh

Bunny's Story Had a Nice "Ring" to It

"Bunny" Baker—our cute blonde secretary over here at the newspaper—showed up late for work the other morning and "scooped" us all.

Bunny came in carrying a big box of cigars under her arm and, without a word, went around dropping a cigar off at each desk. Finally, when we were all but bursting with curiosity, Bunny told us what was going on. She held up her left hand and proudly displayed a lovely diamond ring on her third finger.

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From where I sit, Bunny's way of announcing her engagement showed real ingenuity. And ingenuity—doing things in a better and different way—is a typical American trait. Freedom of expression, freedom to work how and where we please . . . even a little thing like the freedom to choose a glass of beer after a day's work—these are some things that make our nation so "engaging."

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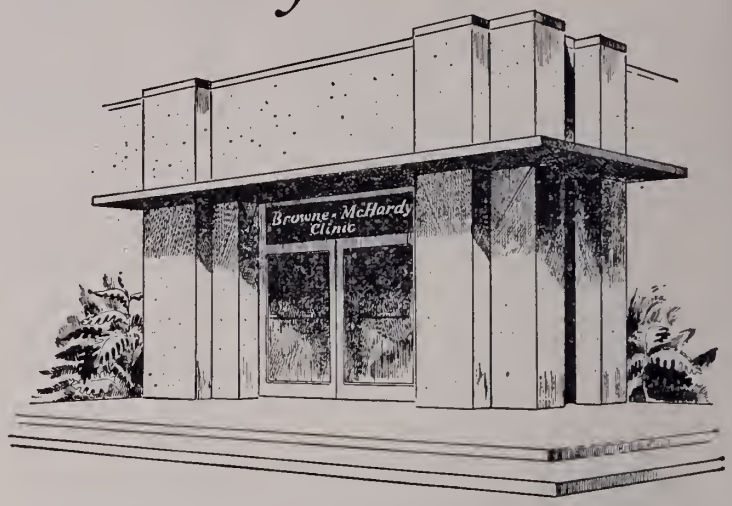

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b) Obtain follow-up information on all cancer patients at annual intervals and provide service follow-up.

c) Abstract the records of each cancer case, complete with follow-up findings, and organize the material in such a way as to provide useful material for evaluating the results of therapy, for research studies, for teaching and for demonstration.

d) Provide for an exchange of information with the Board of Health on death reports.

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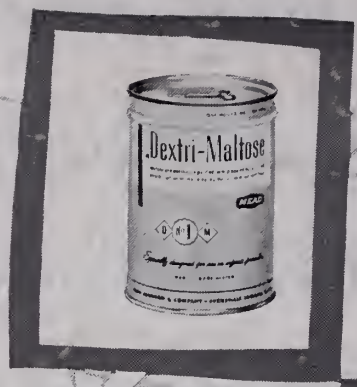

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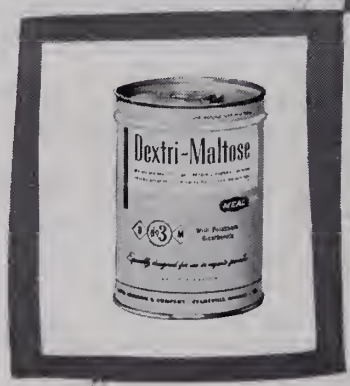

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MARCH, 1953

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Published monthly at 430 Tulane Ave., New Orleans 12

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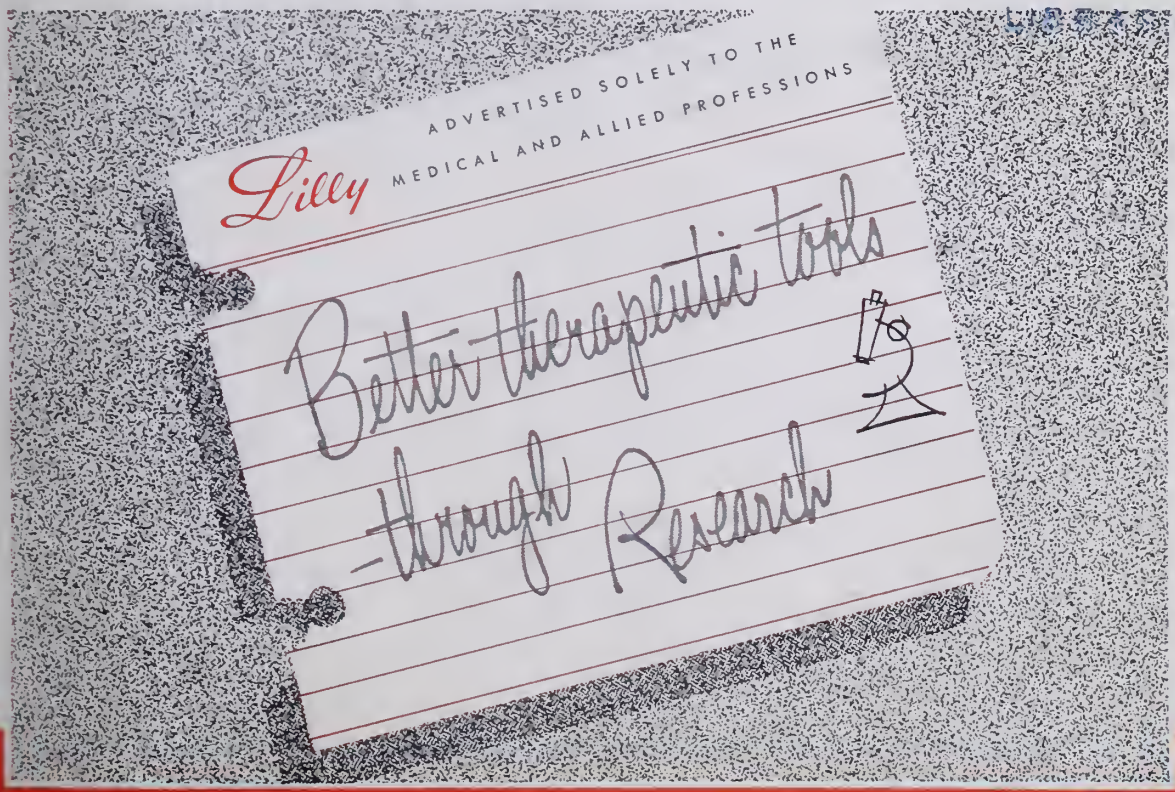

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The Louisiana State Board of Health has asked the Louisiana State Medical Society to assist in setting up a formula for allocation on a state wide basis. You will be notified of this formula. More detailed information has been mailed to the Louisiana State Medical Society and its component district and parish societies.

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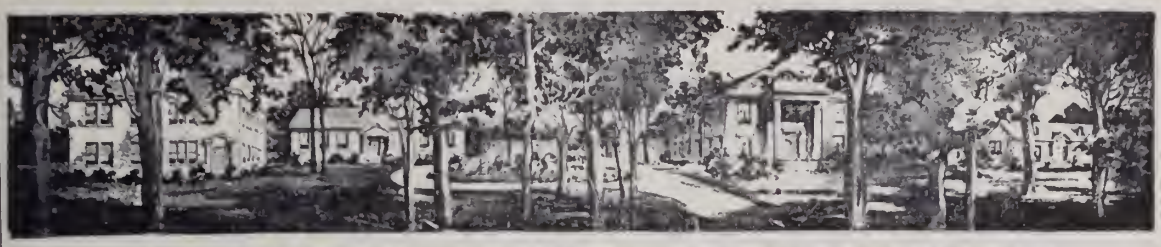

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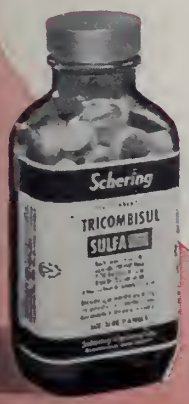

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For reasons not entirely understood at present, "heart disease and high blood pressure are more common in overweight persons than in those of desirable weight." The predisposition to atherosclerosis in obesity and the increased physical burden of carrying excess weight are undoubtedly contributing factors. Hence, as this publication points out, weight reduction is the first line of defense in decreasing the incidence of cardiac disease, and in improving the prognosis after cardiac disease or hypertension has developed.

Meat occupies a prominent position in the weight reduction diets outlined in this American Heart Association booklet. This recommendation is in sharp contrast to the erroneous belief held in former years that meat is harmful in hypertension or cardiac disease. "There is no evidence that red meat or any other form of protein in moderation has any adverse influence on blood pressure."

The magic formula for reducing is simply "Eat less." Two types of diets are outlined. One "allows moderate amounts of meat and other proteins, small amounts of fat and moderate amounts of carbohydrates." The other is "high in protein with plenty of meat, eggs and cheese, moderate in fat and low in carbohydrates." Diet No. 1 provides 70 Gm. of protein, 60 Gm. of fat, and 120 Gm. of carbohydrate; caloric yield, 1,300. Diet No. 2 provides 100 Gm. of protein, 80 Gm. of fat, and 60 Gm. of carbohydrate; caloric yield, 1,360.

The inclusion of generous amounts of meat in these diets—12 to 16 ounces of cooked meat or two substantial servings each day in Diet No. 2—is a reflection of the important role meat plays in any weight reduction regimen. It is generously included because of its high content of protein of excellent biologic value and because lean meat contains unobjectionably small amounts of fat.

*Food For Your Heart, a Manual for Patient and Physician, Department of Nutrition, Harvard School of Public Health, Harvard University, The American Heart Association, Inc., New York, 1952. Copies available through local Heart Association.

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

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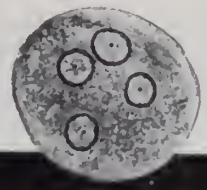

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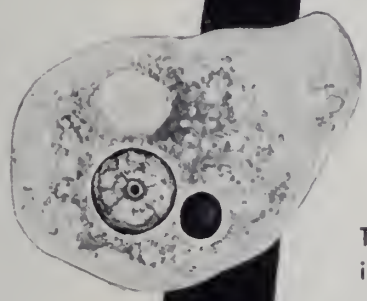

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1. Lindsay, A. E., Gossard, W. H., and Chapman, J. S.: *Dis. Chest*, 20:533, Nov., 1951.
2. Canan, N. J., Jr.: *Am. Jour. Med.*, 6:309, Mar., 1949.
3. Emmett, J.: *J.A.M.A.*, 141:22, Sept. 3, 1949.

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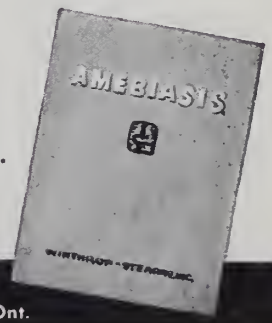

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1. Reich, W. J., et al. (1952), A Recent Advance in Estrogen Therapy. II. American J. Obst. & Gynec., 64-174, July

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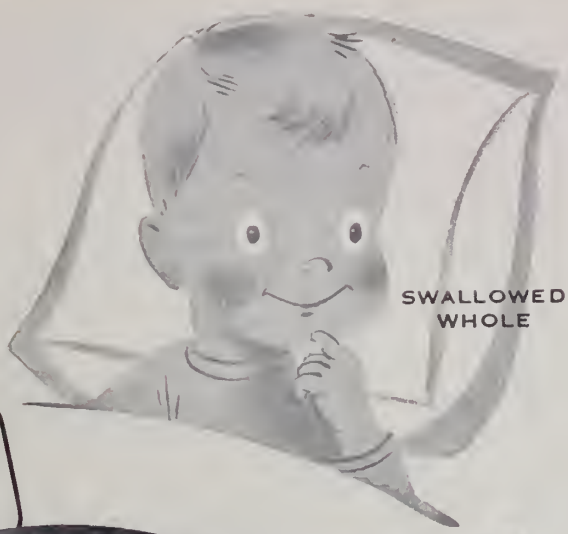

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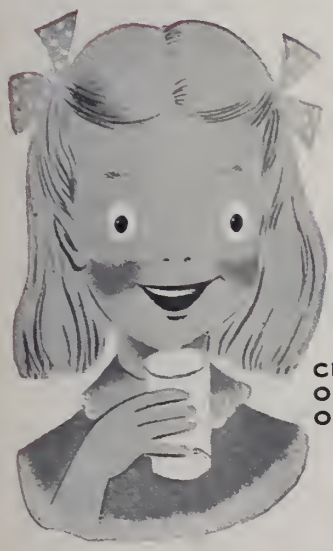

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MARCH, 1953

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CANCER OF THE THYROID

HOWARD MAHORNER, M. D.*
NEW ORLEANS

Thyroid carcinoma may be one of the most distressing cancers of the body. It is increasing in frequency, both absolutely, because there are more people, and probably also relatively, because it is being found in a greater percentage of the population. It is a fact that tremendous strides have been made in its cure and control. The South has paid too little attention to it, but it is among us. In the last 100 thyroidectomies we have performed on our personal service since January 1950, cancer of the thyroid has been encountered 8 times. Thus, the incidence in all cases is 8 per cent, but for nodular goiter it is 14 per cent. Since January 1, 1952, we have operated upon 6 carcinomas of the thyroid gland on our personal service.

PATHOLOGY

Numerous classifications have been made for thyroid malignancy. The one I choose is adapted from many. It divides malignant tumors into 6 groups:

1. Papillary carcinoma
2. Follicular, or alveolar carcinoma
3. Anaplastic carcinoma
4. Epidermoid carcinoma
5. Hurthle cell carcinoma
6. Lymphoma.

The papillary carcinomas comprise about 60 per cent of the total. This includes many with mixed follicular and papillary patterns. All in all, the papillary carcinomas are the most benign in the group. They tend to remain localized in the thyroid gland for a long period of time, but from a primary focus may seed by metastasis to adjacent lymph nodes and there again remain local for periods of time. Their duration and course, not infrequently, will run ten to twenty years. Ultimately, they metastasize to the nodes in the mediastinum, and by pressure symptoms on the trachea and adjacent structures eventually may cause asphyxia. In the early stages, the growth is very amenable to surgery. They metastasize first to the ipsilateral lymph nodes and the metastasis is often larger than the primary focus in the gland which may not be detectable by palpation. Thus, surgical attack on an extra thyroid cervical tumor may offer the first conclusive evidence that there is a cancer in the thyroid gland itself. The papillary carcinomas are radiosensitive, both to iodine^{131} and to x-ray therapy.

Follicular carcinomas, the second group, have a microscopic structure which is highly differentiated, and the acini which are formed contain colloid. This group contains the so-called "metastasizing adenoma." These tumors frequently metastasize by the blood stream to bone at a distance from the primary. Frequent sites of secondard involvement are the calvarium of the skull, the spine, the pelvis, and the long bones of the extremities. Such tumors may manifest themselves clinically as a metastasis in bone and not be suspected in the thyroid gland because the primary is so small. However, regardless of a palpable nodule in the thyroid gland, the primary carcinoma can always be found in it by

*Presented at meeting of the Orleans Parish Medical Society, November 10, 1952.

From the Department of Surgery, Louisiana State University School of Medicine.

careful search after it is removed. Follicular carcinomas are particularly sensitive to iodine.[131] They usually have a good uptake, and, after a test dose of iodine,[131] they may be identified and localized in the bone or in the chest by the Geiger-Muller counter. Whereas the prognosis of this type of carcinoma is less favorable than for papillary carcinoma, nevertheless it is frequently controllable by surgery and radioactive iodine.

The third group of tumors, the anaplastic carcinomas, have a very poor prognosis. Most of these patients are dead within two years of the time of diagnosis. Surgery is seldom able to encompass and remove them. They invade adjacent mucles and lymph nodes and metastasize distantly as well. They show no response to iodine[131] because the uptake of iodine is so poor and inconsequential. Fortunately, they comprise a smaller group than papillary carcinomas.

The fourth group of thyroid carcinoma is the epidermoid in which the acinar cells seem to have undergone metaplastic as well as malignant change. They form whorls of cells just like squamous cell carcinomas of the skin. This is a very malignant tumor; it is extremely rare and responds poorly to both surgery and radiation therapy.

The fifth type of tumor is the Hurthle cell carcinoma of the thyroid. These, comprised of large clear acidophilic cells, form sometimes enormous tumors. Usually they are of moderate size. They do not metastasize early. Chesky reported 25 cases. The largest tumor in his series weighed 226 grams and the smallest was 9 grams. Thirty-six per cent of the patients had toxic symptoms. The over-all survival rate was 75 per cent in five years.

The sixth group of tumors of the thyroid are the lymphomas. Apparently, these develop in the lymphoid tissue of the gland, but, because of the difficulty of identifying undifferentiated cells, it is possible that some of these are, in reality, carcinomas of a highly undifferentiated type. They are rare; they are extremely malignant; they are radiosensitive; they respond poorly to surgery because they are not usually encompassed at the time of operation. They may show temporary response to x-ray therapy and to nitrogen mustard.

INCIDENCE

Carcinoma of the thyroid gland occurs in nonendemic as well as in endemic goiter areas. It is less common than carcinoma of the stomach, but it is much more amenable to therapy. The important part about the incidence is that various institutions reporting on this problem show that from 3.5 to 10 per cent of all nodular goiters removed show malignancy. Furthermore, Cole and his collaborators found that 17.2 per cent of all single adenomas removed showed carcinoma. Figures from other institutions are not so high, but nevertheless, are very impressive. Beahrs, Pemberton, and Black, in over 5,500 cases at the Mayo Clinic, found carcinoma in 4.8 per cent of the nodular goiters removed. Thyroid carcinoma was found in 7.5 per cent of more than 3,000 thyroidectomies for nodular goiter without hyperthyroidism and in approximately half of these (3.5 per cent of all) the cancer was unsuspected clinically. Furthermore, it has been noted that if a nodular goiter is found in a child one out of every three of them is malignant, and this report is fairly consistent with different observers. Winship reports that 29 per cent of collected cases of nodular goiters in children showed carcinoma. Usually these carcinomas in children are of the papillary type, and are amenable to early surgical treatment. Even 1 per cent of toxic diffuse goiters, where it is least expected prior to operation, show a malignant growth.

Clinically, malignancy of the thyroid can be suspected because of the appearance of the gland, its nodularity, its consistency, and the presence of lateral masses. Moreover, these corrolaries may be accepted: that it is more common in nodular goiters in children; that it is much more common in nodular goiters in adults than in diffuse goiters; that it is much more common in single adenomas than it is in multiple nodules in the thyroid gland; that lateral aberrant thyroid growths always have a primary in the thyroid gland, usually in the

ipsilateral lobe; that so-called "metastasizing adenomas" always have a primary in the thyroid gland.

To emphasize the truth of the concept that a lateral aberrant thyroid always has a primary in the ipsilateral lobe, the following case which I operated upon recently seems impressive.

A woman, aged 28 years, had had a nodule removed from the right upper portion of the neck in New Orleans, in 1943, nine years ago. This was done by another surgeon, and the pathology report was 'carcinoma resembling thyroid gland." Nothing more was done at that time. She moved to Albany, New York, where, in 1947, another operation was done for another nodule in the right submaxillary region. It was removed and after the operation she was told that this tissue resembled thyroid gland and was malignant. Another surgeon was called in consultation there, and he urged her to have the right thyroid lobe removed, but she refused. Five years later, now living in New Orleans again, she still thought of the possibility of having trouble in that lobe, and she was sent to me. On the pathologic evidence alone, since the thyroid gland felt perfectly normal, having confirmed that what she told me was true, I advised her to have the right thyroid lobe removed. This time she consented, and, at operation in April 1952, I did a right total lobectomy. Nothing could be felt clinically in that lobe. At operation I saw a small white nodule in the superior pole of the right lobe. It was approximately 5 by 3 mm. in diameter, and it certainly could not have been felt. On cut section, however, this adenoma showed carcinoma, and it, undoubtedly, was the primary focus for the carcinomas removed at the previous two operations. At the operation, nodes along the carotid sheath were removed, but no carcinoma was found in them. Had carcinoma been found in the lymph nodes, I would have proceeded with a block dissection of the neck at that time.

Formerly such lesions were called "lateral aberrant thyroids" and were thought to arise in situ from anlagen. Today we realize that they always have a primary in the thyroid gland.

IODINE^{131} AND CARCINOMA OF THE THYROID GLAND

Iodine^{131} has been a tremendous advance in the study and in the therapy of cancer of the thyroid. Iodine appears almost solely in the thyroid tissue, and is found in negligible quantities in all other tissues of the body. It is highly concentrated in the thyroid gland, as much as 300 times its concentration in the blood stream. Furthermore, iodine is taken up and stored in the gland very promptly. Within twenty-four hours, tracer doses of iodine^{131} accumulate at a maximum in the thyroid, or the iodine is eliminated in the urine. The total amount of radioactive iodine given can always be accounted for by the concentration in the gland and the elimination in the urine. In the normal thyroid gland, on normal routine, approximately 40 per cent of iodine^{131} is taken up in twenty-four hours, but under certain conditions this uptake may be enhanced, and it is considered of therapeutic importance to get an uptake of 70 to 90 per cent of a radioactive dose within twenty-four hours.

The method of study is usually to give a very small dose to a patient, either prior to operation or postoperatively after a diagnosis of malignancy has been established. There are three possibilities of studying the functional activity of the tumor or the nodule under suspicion:

1. By giving a tracer dose of iodine^{131} and estimating the differential uptake in different areas of the gland or metastatic nodule. The amount eliminated in the urine may be an additional countercheck.

2. By the recently developed gammagraph, which actually plots automatically the functional activity of the thyroid gland, including variations in function in nodules and the surrounding tissue.

3. By radioautograph; that is, the demonstration of radioactive iodine uptake in cut sections of the removed thyroid tissue by placing it upon a photosensitive film and subsequently developing it.

A tracer dose of 40 microcuries to 2 millicuries is administered by mouth and the patient is tested at the end of twelve and twenty-four hours for uptake. This uptake may be demonstrated in metastases as well as in the gland. In order to facilitate and enhance uptake, two measures are of known value. One is total thyroidectomy, which was originally suggested for this purpose by Rawson and performed by Linton. Under such circumstances, a secondary lesion which originally had no uptake, or an insignificant one, may have an induced or

enhanced uptake as high as 70 or 80 per cent. A second method is to suppress the amount of iodine in the gland by the use of thiouracil or one of its related compounds. Thiouracil prevents the utilization of iodine by the thyroid gland. It blocks it chemically, and prevents its incorporation in the thyroid hormone. Thus, other protein-bound iodine of the gland is eliminated and the gland becomes deficient in iodine, and when the thiouracil compounds are stopped the gland is much more avid for iodine. Usually the use of thiouracil compounds to enhance iodine^{131} uptake is accomplished by administering the drug over a period of days, then stopping it, and after forty-eight hours giving the test, or therapeutic dose of iodine.^{131} A total thyroidectomy is advisable, but, because of this action of thiouracil compounds, is not an essential condition for an effective result from a therapeutic dose of iodine.^{131}

A therapeutic dose of iodine^{131} varies tremendously. Usually doses of from 50 to 200 millicuries are given. The largest single dose reported was 315 millicuries and that caused pancytopenia and death. Dobbins reports a total dose of as much as 800 millicuries over a period of four years. The largest single dose he gave was 200 millicuries. The maximum effect from iodine^{131} occurs after the fourth week and for that reason repeated doses must not be given within that period.

The effect of such large doses on the thyroid gland is to destroy or suppress the parenchymal cells and produce fibrosis, but even eight years after the administration of iodine^{131} parenchymal cellular activity is still present, and nuclei which are intensely stained suggest that there may be some tendency to proliferation. No definite case of cancer following administration of iodine^{131} has been described, but it is true that iodine^{131} produces benign tumors of the thyroid gland in rats. Thiouracil, too, has been found to produce not only benign but malignant tumors of the thyroid gland in rats, and it apparently does this by suppressing the utilization of iodine in the thyroid, which, in turn, causes the liberation of more thyrotropic stimulating hormone from the pituitary gland. This stimulates the parenchymal cells. The theory that carcinoma of the thyroid develops because of overstimulation by the pituitary has some enticing and valid data to support its accuracy.

The results of treatment of thyroid tumors with iodine^{131} cannot properly be assayed at the present time. Certain investigators, like Stanbury for the Massachusetts General Hospital, are a bit pessimistic as to what is really being accomplished. At the American Goiter Association Meeting in St. Louis in May 1952, the report by Stanbury left one with the impression that the group at the Massachusetts General Hospital were not entirely convinced that they are accomplishing a great deal by its use in thyroid tumors. On the other hand, Dwight Clark at the University of Chicago has found it of great benefit, and feels that it is suppressing and controlling tumors which otherwise would have killed a host long before this. One of the difficulties, undoubtedly, is the segregation of the different types of cases. Very undifferentiated tumors, of course, will not respond well, and until they can be treated in such a manner that their type could be converted to a functional type of metastasis they must be discarded from the group in which improvement could be expected. On the other hand, the papillary tumors even without iodine^{131} have survived for long periods of time with known metastases, and this, likewise, proposes the difficulties of standardization of life expectancy under these known conditions. It is true, however, that after the administration of iodine,^{131} follicular or acinar type carcinomas with metastases of bone and destruction of bone have been made to regress with reossification in the involved areas. In addition to that, radioactive secondaries, when given tracer dose long after the administration of therapeutic dose, show much less functional activity indicating that parenchyma had been burned down and made less active.

Untoward results from the administra-

tion of iodine[131] have been several. Pancytopenia with resultant death has been reported after the total dose of 638 millicuries. Liver damage, detectable by bromsulphalein tests, has been reported in some instances, and bladder irritability has resulted when metastases involved the pubic bones in the region of the bladder. On the other hand, no case of parathyroid tetany has been induced by the administration of iodine.[131]

SURGERY

Surgery remains the treatment of choice for cancer of the thyroid gland. It should be used both prophylactically and therapeutically. Because of the peculiarities of the incidence of thyroid carcinoma, occurring as they do especially in nodular goiters and particularly in single nodules, consideration must always be given to the possibility of such a gland being or becoming malignant. This does not justify the wholesale eradication of thyroid glands which show a little irregularity. It justifies the conclusion that operation is much more readily indicated for true adenomas, either single or multiple, but particularly the single adenomas, and particularly for nodular glands in children because of the insistent danger that one out of three of such children will have a cancer.

The problem of the differential diagnosis is very difficult. It is hard to say which glands will show carcinoma. It is true that hardness without calcification demonstrable in an x-ray is a very suggestive sign. It is also true that most patients with recurrent laryngeal paralysis prior to operation usually have this complication because of a cancer. These features make one more insistent that indications for operation exist. Thyroiditis represents a very major problem, particularly here in the South where the incidence of thyroiditis in goiters is proportionately higher than it is in the goiter belts. Hashimoto's struma and Riedel's struma may easily be confused with carcinoma of the thyroid gland. It is all the more confusing because practically all cases of thyroiditis of whatever type, that is, Hashimoto's or Riedel's struma, or thyroiditis not classified in those groups, are practically always amenable to conservative measures, and in few of them is surgery indicated, and then frequently only for decompression of the trachea and alleviation of pressure symptoms.

The method of management of carcinoma surgically is beginning to have more uniformity of opinion and standardization, and it has been a trend towards more radical procedures. The method of surgical management depends on the type of carcinoma. If the patient has a small nodule outside the thyroid gland which clinically is suspected of being malignant and of thyroid origin, the patient is draped both for a thyroidectomy and for a radical neck dissection. Two sets of instruments are set up. The nodule is removed first, and the pathologist gives a report on the frozen section. If it is reported to be a lesion which resembles carcinoma of the thyroid, whether it is papillary or follicular in type, the instruments are changed, and a block dissection of the neck on that side is begun from below. When the thyroid gland is encountered, it is removed on that side totally for papillary and follicular type carcinomas. If it is an infiltration, the opposite lobe as well is removed totally, but the block dissection is done on one side of the neck only at this time. In addition to that, if a growth is of the papillary type and the operation is being done for so-called "lateral aberrant thyroid" where the isthmus is cut from the opposite lobe the surface must be carefully examined microscopically for any evidence of extension. If there is none, the remaining lobe may be left. Postoperative studies of this surface are important. I have had experience of being told in the operation room that the surface was clear of carcinoma and leaving a small part of the opposite lobe in, when five days later after study of the permanent section the pathologist told us carcinoma involved it. A second operation was done to remove the entire remaining lobe. Parathyroid glands and recurrent laryngeal

nerves must be carefully preserved during these operations.

Operations for diffuse infiltrating carcinomas of the thyroid gland demand total thyroidectomy, but without the hope of controlling the cancer in an appreciable number of the cases.

Postoperatively radioactive iodine tracer studies and therapeutic doses should be given. It is to be remembered that a good many of these tumors are radiosensitive and x-ray irradiation will help. On the other hand, one cannot expect improvement promptly from x-ray, not for a period of six weeks. In reality, the maximum effect from iodine[131] occurs after the fourth week, and, for that reason, repeated doses must not be given within that time.

SUMMARY

Cancer of the thyroid gland is among us and occurs not infrequently in the Southern states as well as throughout the rest of the nation. It is amenable to surgical and radiotherapeutic treatment, including the use of iodine.[131] Many of the patients can be cured or remain well under control for years. It behooves us to be on the lookout for these lesions, and to take active and prompt steps for their treatment and control.

REFERENCES

1. Beahrs, O. H., Pemberton, J. de J. and Black, M.: Nodular goiter and malignant lesions of the thyroid gland, Tr. Am. Goiter Assn., 355-363, 1951.

2. Chesky, V. E., Dreese, W. C. and Hellwig, C. A.: Hurthle cell tumors of the thyroid gland; A report of twenty-five cases, Tr. Am. Goiter Assn. 459-476, 1951.

3. Cole, W. H., Slaughter, D. P. and Rossiter, L. J.: Potential dangers of non-toxic nodular goiters, J. A. M. A. 127:883, 1945.

4. Cole, W. H. and Marjakis, J. D.: Incidence of carcinoma of the thyroid in nodular goiter, J. Clin. Endocr. 9:1007, 1949.

5. Dobyns, Brown M.: Radioactive iodine as an adjunct to the surgical management of diseases of the thyroid, Surg. Gynec. & Obst. 93:115, 1951.

6. Morris, H. P., Dalton, A. J. and Green, C. D.: Malignant thyroid tumors occurring in the mouse after prolonged hormonal imbalance during the ingestion of thiouracil, J. Clin. Endocr. 11:1281, 1951.

7. Rall, J. E., et als.: The use of thiouracil in the treatment of metastatic carcinoma of the thyroid with radioiodine, Tr. Am. Goiter Assn. 347-354, 1951.

8. Winship, T.: Carcinoma of the thyroid gland in youth, Tr. Am. Goiter Assn. 364-289, 1951.

TREATMENT OF CARCINOMA OF THE ESOPHAGUS

LAWRENCE H. STRUG, M. D.

NEW ORLEANS

Increase of interest in the treatment of carcinoma of the esophagus, has occurred within the past decade. However, the many attempts to treat surgically such diseases of the esophagus date back to 1913, with the classic esophagectomy of Torek with anterior thoracic esophagostomy. However, the successful intrathoracic esophagastric resection and anastomosis by Adams and Phemister,[1] in 1938, demonstrated the feasibility of this type of procedure. Since that time this procedure has been modified numerous times, but employed with increasing frequency in the treatment of carcinoma of the esophagus. During this period the postoperative complications have fallen appreciably, with the mortality reaching a level, which though still not entirely satisfactory, is acceptable.

FACTORS IN LOW SURVIVAL RATES

In spite of the fact that technical factors have been overcome to the point that morbidity is surprisingly low, as well as the attainment of an acceptable mortality, the over-all picture has changed only for the immediate postoperative period. The survival rates are extremely poor, as evidenced by the reports of Sweet,[2] Parker and associates,[3] and Ravitch.[4]

What are the factors that are responsible for the poor survival rates? The far advanced stage of the disease that is evident when the average patient presents himself for diagnostic evaluation of symptoms is a most important factor.

The portion of the esophagus in the posterior mediastinum, with its extremely close relationship to the trachea, aorta, pericardium, descending aorta, left bronchus, diaphragm, and both mediastinal pleura, makes the intimate relationship between these structures paramount. The lympha-

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Department of Surgery, Louisiana State University School of Medicine, New Orleans, Louisiana.

tic drainage of the esophagus is closely entwined with that of these mediastinal structures. As has been very well demonstrated the lymphatic drainage of the esophagus occurs both cephalad and caudad, to the bronchial and tracheobronchial nodes anterior to the aortic arch, along the aorta, and to the nodes at the esophagogastric junction below the diaphragm.

A radical resection for cancer, as embodied in an operative procedure for carcinoma of the breast cannot be performed in carcinoma of the esophagus except possibly in the lower third, because of the neighboring vital structures, and the surgical impossiblity of performing adequate lymphatic block dissection. It is well known that carcinoma of the esophagus metastasizes to the regional lymph nodes very early, and it is not uncommon to find extensive distant metastases with the primary lesion being very small.

It can thus be readily appreciated that in order to increase the survival rates in carcinoma of the esophagus, we must strive to make the diagnosis earlier. This fact is born out by Sweet's[2] series, in which he demonstrated a 40 per cent five year survival in those cases, which were resected and there was no evidence of mediastinal lymphatic spread.

The difficulty in obtaining patients early in the disease can be attributed to (1) The insidious onset of the early symptoms, and its mimicry of pathology in other organs; (2) delay on the part of the patient in seeking medical aid in spite of the persistence of symptoms; (3) delay on the part of physicians, who after being consulted about symptoms of dysphagia, are content to treat patients empirically without benefit of adequate investigation. There is considerable that can be done about these factors by way of education, particularly among the laymen and physicians.

Patients that present themselves with early symptoms such as mild substernal discomfort, tightness in the thorax or upper abdomen, which persist for a period of three weeks or more, should be investigated. The esophagus should always be considered along with the heart, lungs, and stomach in investigations of this type of symptomatology.

In the study of these symptoms, barium visualization of the esophagus is of importance, but one must be cognizant of the fact, that it may not show an early lesion.

Esophagoscopy is used entirely too infrequently. Only a small percentage of the patients with symptoms referable to the esophagus or cardiac end of the stomach, have examination by this means. One reason is that comparatively few physicians are trained in this type of endoscopy. Only by this means can an early lesion of the esophagus be detected. As more doctors become trained in this procedure, it is hoped that it will be employed more frequently, and that it will result in a higher incidence of earlier diagnoses.

Dysphagia may at first not be progressive as the associated esophagospasm may frequently be relieved by belladonna preparations. Thus both the physicians and patients are lulled into a false sense of security. The fact that symptoms are frequently referred below the diaphragm, helps focus the attention on the abdomen. This suggests the thought that all patients with persistent symptoms of this sort should have esophagoscopy in addition to barium studies, as a part of the diagnostic work-up.

The results of treatment of carcinoma of the esophagus either nonoperative or operative are extremely poor. It may be stated that this is due to several factors. Esophageal carcinomas are usually highly malignant. Metastases often occur early and widely, much greater in extent than would be expected from epidermoid cancers. It is a well established fact that this type of cancer extends intramurally up and down the esophagus, frequently far beyond the palpable edges of the tumor. Another fact is the widespread lymphatic involvement, even below the diaphragm. Also associated local invasion of the trachea or bronchus with occasional fistulae are deterrent factors to resection or increased survival rates. Furthermore, the patient with esophageal cancer is frequently not a fit subject for radi-

cal surgical treatment. He is often in the sixth and seventh decade of life with associated senile changes. Also, coexistent pulmonary and cardiac changes make them poor surgical risks.

TREATMENT

Surgical treatment can offer something both in a curative way and for palliation. There are numerous methods of therapy and I shall endeavor to cover them briefly in order of their historical importance.

For purposes of discussion one can start with the extremely unsatisfactory palliative gastrostomy. It certainly does not offer very much to the patient with carcinoma of the esophagus, as it is only a poor substitute for feeding of the patient. It is very difficult to keep the contents from leaking from the tube, regardless of the type of gastrostomy performed. If used at all, it should be reserved for the case in which any form of surgical procedure is out of question, and also, in those in which other forms of nonsurgical therapy cannot be considered.

In desperately debilitated patients with complicating lesions, such as extensive metastasis or esophagobronchial or tracheal fistulas, there is not any type of operative procedure which is feasible. Palliation can be offered these patients, in one of three ways. Direct dilatation by bouginage, will on occasions enable a patient to swallow without too much difficulty for a few weeks, repeating the procedure at intervals, obviously with no effect on the final outcome. Another method is by use of the Souttar tube, first described in 1927.[5] The malignant stricture is dilated, and the tube is placed through the areas of stricture by endoscopic means. This has offered a fair degree of palliation in some hands. The third method of nonoperative palliation is by the use of irradiation. This can be performed by deep roentgen irradiation, direct implantation of radioactive material, or by radium boogies. The simplest form of therapy of this type is by deep irradiation, preferably the method of Neilsen.[6] However, Fleming[7] in a study of 800 patients treated by deep x-ray, observed that 83 per cent died within a year and that only 10 patients survived more than five years. At one time it was the custom at Charity Hospital to irradiate all carcinoma of the esophagus, following a gastrostomy for feeding purposes. It is our impression that many of these patients had immediate benefit, but ultimately died of metastasis, and there were few, if any, five year survivals.

When carcinoma of the esophagus is present, and there is no apparent evidence of metastatic spread or complicating factors which would negate surgery, one of the following surgical precedures can be utilized. Since the work of Adams and Phemister,[1] it has been repeatedly demonstrated particularly by Garlock[8] and Sweet[2] that the stomach can be mobilized; the intrathoracic esophagus resected, and the stomach brought into the chest, and a primary esophagogastric anastomosis be performed at any level, even into the neck. This is not a simple procedure, particularly for the lesion at the level of the arch or above. It is time consuming, the anastomosis is frequently under considerable tension, thereby resulting in complication such as leakage at the anastomatic site, and resultant empyema. However, in tumors of the lower third this procedure is highly desirable.

Both Reinhoff[9] and Robertson[10] have felt that in high lying lesions, the better procedure is to utilize a loop of jejunum, making the anastomosis in a Roux-Y-type, differing only in the location of the jejunal loop in the thoracic cage, Reinhoff placing it posteriorly and Robertson anteriorly. It can also be utilized in low esophageal carcinomas with gastric invasion, as a method of by-passing the involved esophagus and stomach.

It is obvious from the experience that has been accumulated, that the disadvantages of using the stomach as a replecement tube for high lying lesions are many. There is a definite disadvantage to having a distendable stomach in the thorax, particularly in individuals who have borderline pulmonary function. Again, constant regurgitation of gastric juice is a source of distress and discomfort to the patient, and to this is added

the hazard of tracheal aspiration. This has been the greatest argument for the exponents of the jejunal loop replacement procedure. Others such as Ravitch favor in many instances an antethoracic Roux-Y-loop. However, this requires multiple operative procedures, and although not attendant with as many failures as the old Torek procedure, it still offers a high degree of failures.

Recently Berman[11] has developed a method for the replacement of the thoracic esophagus with a plastic tube. He has amply demonstrated the feasibility and simplicity of this method. The involved esophagus is resected, a flanged polythene plastic tube is tied in place, and the mediastinal structures closed about it. A fibrous wall develops about the tube, and mucosal lining is regenerated covering the inside of the tube. In the reported cases the patients subsequently swallowed well. The procedure undoubtedly can be used to advantage in individuals who are poorer risks, as the time involved in performing the operation is considerably shorter. However, it has not added to the longevity of the patients in any manner, and has the additional disadvantage of a buried prosthesis.

SUMMARY

1. Cancer of the esophagus is a disease, occurring mainly in elderly people, who are considerably poorer risks.

2. Location of the disease, mode of intrinsic and lymphatic spread, does not lend itself to adequate cancer surgery.

3. Numerous surgical procedures have been tried, but all have definite limitations insofar as applications, and many disadvantages.

4. In spite of the gloomy outlook, surgical procedures do offer considerable relief by palliation.

REFERENCES

1. Adams, W. E., and Phemister, D. B.: Carcinoma of the lower thoracic esophagus; Report of a successful resection and esophagogastrostomy, J. Thoracic Surg. 7:621, 1938.

2. Sweet, R. H.: The result of radical surgical extirpation in the treatment of carcinoma of the esophagus and cardia, Surg. Gynec. & Obst. 94:46, 1952.

3. Parker, E. F., Hanna, C. C., and Postlethwarte, R. W.: Carcinoma of the esophagus, Ann. Surg. 135:697, 1952.

4. Ravitch, M. M., Bahnson, H. T., and Johns, T. N. P.: Carcinoma of the esophagus, J. Thoracic Surg. 24:256, 1952.

5. Souttar, H. S.: Treatment of carcinoma of esophagus, Brit. J. Surg. 15:76, 1927.

6. Nielson, Jens: Clinical results with rotation therapy in cancer of the esophagus, Acta Radiol. 26:361, 1945.

7. Fleming, J. A. C.: Radiation in cancer of the thoracic esophagus, Thorax 2:206, 1947.

8. Garlock, J. H.: Technical problems in surgical treatment of carcinoma of the esophagus and upper stomach, J. Thoracic Surg. 21:215, 1957.

9. Reinhoff, W. F., Jr.: Intrathoracic esophagojejunostomy for lesions of the upper third of the esophagus, South. M .J.3 9:928, 1946.

10. Robertson, R. and Sargeant, T. R.: Reconstruction of esophagus, J. Thoracic Surg. 20:689, 1950.

11. Berman, E. F.: The experimental replacement of portions of the esophagus by a plastic tube, Ann. Surg. 135:337, 1952.

RADIOACTIVE GOLD IN THE TREATMENT OF ADVANCED CARCINOMA OF THE PROSTATE AND BLADDER*

PRELIMINARY RESULTS IN 24 CASES

EDGAR BURNS, M. D.
JOHN U. HIDALGO, M. S.
AND
ROBERT NIESET, M. D.
NEW ORLEANS

In outlining a plan of therapy for prostatic carcinoma we have long been accustomed to separating the cases into those in the early stages of the disease and those in the advanced stages. A case may be considered early only so long as the neoplastic cells are confined within the prostatic capsule. Such cases produce no symptoms because most of the primary tumors originate in the posterior lobe well away from the prostatic urethra, a fact which accounts for the absence of urinary symptoms, and pain other than that related to the urinary tract does not occur until the tumor has broken through the prostatic capsule and infiltrates the surrounding area. Since symptoms are absent in this group of cases, the diagnosis must be based upon: (1) the discovery of a suspicious area in the prostate during routine physical examination; and (2) a pathologic study of an adequate

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From the Departments of Urology, Ochsner Clinic and Tulane University School of Medicine and the Department of Biophysics, Tulane University School of Medicine, New Orleans.

amount of tissue removed from this area to prove whether it is carcinoma or an ordinary inflammatory lesion. Unfortunately, less than 10 per cent of cases are discovered during this stage of the disease. In this group of cases a cure may possibly be obtained by radical excision of the prostate with its capsule along with the seminal vesicles.

CHOICE OF CASES

Until recently separation of the cases into early and advanced stages was all that was necessary from the standpoint of outlining a plan of treatment. In view of recent advances in therapy, however, it has become necessary to divide the cases in which the tumor has spread beyond the prostatic capsule into two groups. The first group is comprised of those cases in which the tumor has infiltrated the structures in the prostatic area and has usually involved the seminal vesicles and regional lymphatics giving rise to pain from pressure on peripheral nerves. In the majority of these cases the infiltration has also involved the urethra resulting in varying degrees of bladder neck obstruction with urinary symptoms in proportion to the degree of involvement. This group comprises about 55 per cent of the total number of patients with prostatic carcinoma. The second group consists of those cases in which the tumor has spread to a distant area, usually bones or the lungs.

The use of radioactive isotopes in the treatment of malignant diseases stimulated an interest in its application to patients with prostatic carcinoma which is not amenable to possible cure by radical excision. In March 1951, Flocks[1] first treated patients with advanced prostatic carcinoma with radioactive gold (Au 198). This material was selected because it is apparently entirely nontoxic and will remain for the most part at the site of infiltration into tissue. It has a half life of 2.7 days, and about 95 per cent of the energy release is in the form of beta radiation. It was thought at first that the maximum range of irradiation of radioactive gold in tissue was approximately 3 mm. However, our experience has led us to believe that the range may be somewhat greater than that, probably 4 or 5 mm.

It is believed by Flocks and others who have used radioactive isotopes in the treatment of carcinoma that by direct infiltration it is possible to give a cancerocidal dose of radiation and avoid some of the objectionable side effects of radium and roentgen therapy. Ninety-five per cent of the radiation is delivered in one and one-half weeks. Allen and associates[2] have shown that radioactive material injected into the parametrium is delivered by the lymphatics to the regional lymph nodes so that one might reasonably expect some effect upon metastatic cells in these nodes.

We have been able to show by a combination of roentgenographic and radiographic technics the gross distribution pattern of the radioactive isotope after injection. Figure 1 shows an exposure twenty-

Fig. 1—Roentgenogram shows area of distribution twenty-four hours following injection of 112 mc. Au. 198 into a prostatic tumor.

four hours after injection of 112 mc. Au 198 into a prostatic tumor. Figure 2 shows an exposure twenty-four hours after injection of 126 mc. Au 198 into a tumor of the bladder. We have shown further that 8 per cent of the total dosage is obtained in the urine during the first five days. After

Fig. 2—Dark area in pelvic region shows distribution pattern twenty-four hours after injection of 126 mc. Au 198 into a bladder tumor.

that period there is not enough activity in the urine to be of any significance. By the end of ninety-six hours after injection 0.03 per cent of the total dosage can be demonstrated in the blood serum. A considerable amount of radioactivity can be demonstrated, as might be expected, in the sacral and suprapubic areas and also over the hepatic area; a smaller amount can be demonstrated over the spleen.

In the selection of patients with prostatic carcinoma for treatment with radioactive gold those patients in whom metastatic lesions in bone and other distant structures can be demonstrated should be excluded because the small amount of radiation in the blood stream is believed to be insufficient to have any significant effect upon remote metastatic lesions. The group of cases to be treated, therefore, must be chosen from that 55 per cent in which the tumor has broken through the prostatic capsule but cannot be demonstrated to have spread beyond the pelvic area. Up to the present time we have restricted the use of radioactive gold to those patients whose disease has become refractory to other means of palliative therapy. The reason for this is that radioactive gold has been employed over too short a period, first to evaluate its possible curative effect in prostatic carcinoma, and secondly, to determine whether or not it may produce late side effects such as sometimes follow the use of large doses of radium, or other yet unknown complications. Moreover, 80 per cent of patients with advanced carcinoma of the prostate show some degree of response to hormone therapy (orchiectomy, stilbesterol or a combination of the two) for varying periods of time. Some of our patients have lived fairly comfortably as long as eleven years and have even been able to pursue a useful occupation. More recently, some of those whose disease has become refractory to hormone therapy have experienced additional comfort and well being from the administration of cortisone, which we have been using for the past eighteen months. We believe, therefore, that patients to be treated with radioactive gold should be carefully selected.

TECHNIQUE

Up to the present time we have used radioactive gold in the treatment of 24 patients with advanced carcinoma. In the preoperative study an effort is made to estimate as nearly as possible the size of the tumor in order to determine the amount of radioactive substance to be obtained. In the beginning we used 1 millicurie per cubic centimeter of tumor. In other words, if it could be estimated that the tumor had a volume of 150 cc., 150 mc. of radioactive gold was injected. However, it soon became apparent that this dose is probably too large and we are now using one-half to two-thirds of that amount.

The technic of infiltration of radioactive gold consists briefly in exposure of the bladder neck in much the same manner as for retropubic prostatectomy with the exception that the rectus muscles are divided close to their attachments to the pubis in order to afford a wider exposure. The bladder is then opened just above the internal sphincteric area and the incision may be extended into the anterior prostatic capsule if necessary to afford easy access to the

tumor. In order to prevent unnecessary exposure of the operating team to the radioactive material, all necessary preparations of the field are completed before the injection is started. The radioactive gold is diluted up to the desired volume with normal saline to which 1 cc. of a 1 to 1000 solution of epinephrine and 150 turbidity units of hyaluronidase are added. As additional protection to the operator's hands the syringes used for the injection are surrounded by a lead shield weighing approximately 2½ pounds. In the beginning an attempt was made to infiltrate the entire neoplastic area uniformly. However, we are now injecting the material only 0.5 to 1 cm. deep, depending upon the thickness of the tumor, and distributing it from the apex of the prostate back to the internal sphincteric area. In addition to that, 1 cc. is injected into each seminal vesicle, the needle being inserted through the base of the bladder. The bladder is closed after an indwelling urethral catheter has been inserted for drainage.

POSTOPERATIVE COMPLICATIONS

Postoperatively, the recovery period differs little from that following ordinary subrapubic cystostomy. Most wounds heal promptly and hernias have not developed in any of our cases as a result of division of the rectus muscle. None of our patients has complained of bladder irritation suggestive of an irradiation reaction and none has experienced any other bladder discomfort except that caused by an indwelling urethral catheter. Nearly all patients have varying degrees of leukopenia. In some it is apparent early in the postoperative period and in others only after several weeks; thus, it is important to obtain frequent blood counts in order that transfusions may be given when indicated.

Frequent liver function tests should be done because of the activity shown in the hepatic area during the postoperative period but in none of our patients has any significant hepatic damage occurred. The most important complication noted in our patients, as well as those treated by Flocks and others, is irradiation proctitis. Of the 24 patients treated by us, 5 complained of rectal irritation, in 2 of whom it was severe enough to necessitate diversion of the fecal stream by colostomy. In a third patient the proctitis was considered severe enough to justify colostomy but the patient refused to have it done.

RESULTS

We have treated 4 patients with advanced carcinoma of the bladder, all inoperable grade III or IV infiltrating tumors. Because the bladder mucosa is transitional epithelium and has been practically not irritated by the radioactive substance and because most bladder tumors are of the transitional cell type, we have not anticipated that such tumors would respond favorably to radioactive gold. The following results were obtained in these 4 patients. In the first patient, who had a grade III tumor involving the left lateral wall with extension beyond the bladder, the response was excellent; cystoscopic examination at the end of the third postoperative month showed no evidence of tumor. In two patients there appeared to be no effect. The fourth patient was apparently made worse; within two months after infiltration of the tumor widespread cutaneous lesions developed which on biopsy were indistinguishable from the biopsy specimen obtained from the tumor of the bladder. This suggests that the pressure necessary to infiltrate the tumor may have distributed some of the cells into the circulation, which would account for the widespread lesions which later developed.

The response of prostatic tumors to radioactive gold is little short of miraculous. The mass will almost completely disappear within a period of three weeks. However, we are reluctant to indulge in overoptimism regarding the results that may be obtained from any new approach to the treatment of malignant disease and prefer to report only what has happened to the patients whom we have treated up to the present time. Rectal palpation following infiltration shows that the tumor becomes rapidly smaller in size and so far there has been no regrowth of the tumor in the first patient

treated eight months ago. At the end of the third postoperative month transurethral biopsy is done in each patient. An attempt is made to remove the tissue from the same area as that from which the preoperative biopsies were obtained. The biopsy specimens have shown no evidence of tumor in about 20 per cent of our cases. Flocks[3] stated that in 37 patients in whom postoperative biopsy was done 11 showed no evidence of tumor. His first patient, operated upon almost eighteen months ago, is still comfortable and shows no evidence of regrowth. It should be emphasized, however, that none of these patients should be considered cured, as from three to five years must elapse before this can be established. Nevertheless, we believe that the response of inoperable prostatic carcinoma to treatment with radioactive gold is sufficiently encouraging to justify continuing its use for a sufficient period to determine if this approach may offer some hope to a group of cases which are otherwise incurable.

SUMMARY

During the past eight months radioactive gold has been employed in the palliative management of 24 selected patients with inoperable carcinoma of the prostate. The immediate response has been almost miraculous. The mass almost completely disappeared within a period of three weeks, and in the first patient treated eight months ago, it has not increased in size. The most serious complication has been irradiation proctitis. Although final evaluation of this material for the treatment of prostatic carcinoma must await passage of several years, the results have been sufficiently encouraging to justify its continued use over a long enough period to determine the final effects.

The effect of radioactive gold in 4 patients with advanced carcinoma of the bladder has been discouraging. This was to be expected, since radioactive substances have little effect on transitional epithelial cells, of which most tumors of the bladder are composed.

REFERENCES

1. Flocks, R. H., Kerr, H. D., Elkins, H. B. and Culp, D. A.: Treatment of carcinoma of the prostate by interstitial irradiation with radio-active gold (Au 198); a preliminary report, J. Urol. 68:510 (Aug.) 1952.

2. Allen, W. M., Bonebrake, M. D. and Sherman, A. I.: Abstracts of Roentgen Ray Society Meeting, St. Louis, Mo., 1950.

3. Flocks, R. H.: Personal communication.

CORONARY EMBOLISM

CASE REPORT

E. B. FLAKE, M. D.
M. D. HARGROVE, M. D.
W. R. MATTHEWS, M. D.
SHREVEPORT

Coronary occlusion occurs quite frequently. In the vast majority of cases it is due to arteriosclerosis of the coronary arteries. It may be due to syphilitic aortitis with involvement of the ostia of the coronary vessels without intrinsic disease of the coronary arteries. Rarely, it is due to periarteritis nodosa, thrombo-angitis obliterans, dissecting aneurysm, and primary or secondary neoplasms. Occasionally, coronary occlusion is due to emboli, about 46 cases of embolism of the coronary arteries having been reported in the literature. Hammon,[1] in 1941, referred to 30 cases and collected 10 cases from the records of the John Hopkins Hospital. The small number of cases reported is probably not an accurate estimate of the frequency of its occurrence. The symptoms and results in myocardial infarction are so similar to coronary thrombosis that the diagnosis is not often considered and is usually a postmortem diagnosis. It has been estimated that from 1 to 2 per cent of the cases of coronary occlusion are due to embolism.

In considering coronary embolism it is desirable to divide the subject into two divisions: (1) embolic occlusion of a large coronary vessel, which is usually single, (2) and embolic occlusion of small coronary vessels which is usually multiple. According to Hammon,[1] emboli occluding a large branch of the coronary arteries may arise from at least six different sources: (1) a thrombus or atheromatous material in a coronary artery; (2) a thrombus covering an arteriosclerotic plaque at the root of the aorta; (3) bacterial vegetations upon the mitral or aortic valves; (4) intracardiac

mural thrombi; (5) thrombi in the pulmonary veins; (6) thrombi in the peripheral veins, paradoxical embolism.[4] In the 40 cases collected by Hammon[1] the source of the embolus was not stated in 2. In the remaining 38 cases, 2 were in the first group, 6 in the second, 19 in the third, 5 in the fourth, 2 in the fifth, and 4 in the sixth.

The occlusion of small coronary vessels by emboli is usually multiple. Their usual source is vegetations upon the aortic and mitral valves, and from mural thrombi. Either of these may be the source of an embolus occluding a large coronary vessel, but perhaps more frequently they may be the source of multiple occlusions of small coronary vessels.

CASE REPORT

A white male, 46 years of age, had complained of increasing dyspnea since July 1951. The dyspnea was progressive and he had frequent respiratory infections. For six weeks prior to his last illness he had a persistent cough, raising rather tenacious sputum. He was an automobile mechanic and had done some Duco auto painting, probably inhaling fumes from the spray gun. He smoked about two packages of cigarettes a day. He had otitis media, bilateral at 14 years of age, and a tonsillar abscess at 28 years of age. Otherwise, his past history was noncontributory.

Examination in October 1951, showed mild cyanosis of the lips and nails with clubbing of the fingers, decreased expansion of the lungs with some impairment in resonance, and slight increase in tactile fremitus at the bases. The heart was not enlarged; the rhythm was regular; no murmurs were heard; and the blood pressure was 90 systolic and 60 diastolic. The blood picture was normal. X-ray of the chest showed chronic diffuse fibrosis. Examination of the blood, urine and sputum was entirely normal.

About 6 A. M., on July 15, 1952, he was admitted to the North Louisiana Sanitarium acutely ill, having been awakened at 5 A. M. by severe substernal pain, radiating to the left shoulder and arm, and accompanied by profuse cold perspiration. He was brought to the hospital from his home, a distance of about 14 miles. On admission he was acutely ill, slightly cyanotic, and sweating profusely. He had a rapid thready pulse, poor heart tones, and the blood pressure was not obtainable. He was thought to have had an extensive myocardial infarct, and was treated accordingly. His condition continued critical, the pulse fast and thready and the blood pressure occasionally up to 40 or 50 systolic. He expired about twelve hours after admission. The total white count was 18,850, with 90 per cent neutrophiles. The electrocardiogram was interpreted as showing an anterolateral infarct.

Autopsy performed (by W. R. M.) was limited to the thorax. The pectoral muscles were wet and dark red. There was about one-half liter of fluid in the right pleural cavity. The left lung weighed 960 grams, and the right, 1200 grams. Both upper lobes and the middle right lobe showed extensive emphysema. Along the anterior margin and at the apices large marble-sized to golf-ball sized transparent emphysematous blebs were present. Over the pleura generally smaller pinhead to match-head sized air sacs were noted. The pleura was mottled gray, black and red, and free from adhesions. The lower lobes on both sides showed no gross evidence of emphysema and both were large, heavy, free from adhesions, with the pleura tense and fairly dark red. Section revealed the surfaces to be rubbery, fairly dark red, wet and non-air containing. The bronchial passages contained froth and mucus and showed congestion.

The pericardial layers were natural. The sac contained 1½ ounces of clear amber colored fluid. The heart in situ was large, ovoid, soft, and flabby. It weighed 360 grams. The myocardium was dark red, soft and wet. All of the chambers were dilated, especially the ventricles and the papillary muscle bundles were flattened. At the apex of the left ventricle, there was a thrombus wedged in between the trabeculae. On the posterior leaflet of the mitral valve, there was a central, elongated scarlike thickening and on the auricular aspect there were two or three small fibrinous specks, representing little thrombi. The valves were increased in circumference, particularly the pulmonic. The right ventricular wall measured 0.7 cm. even with dilatation. The left coronary ostium was plugged with a grayish red thrombus which extended down into the uppermost portion of the first descending ramus. The remainder of the coronary system was perfectly negative, without recognizable atheroma. A rather large embolus, which was a broken-off thrombus, was found in the arch of the aorta. This measured 1.5 by 2 cm., and was mottled gray and red.

On microscopic examination of the lungs, there were huge air spaces, separated by collapsed alveoli and a great deal of fibrosis. Sections from the bases showed interstitial fibrosis with thickening of the interalveolar septa and increased fibrous tissue around the blood vessels and the bronchial passages. The alveoli in these areas were variable in size, often large, and represented pooling of several alveoli due to rupture of the partitioning septae. The alveolar spaces contained a large number of large monocytic cells. In some instances, the air sacs were lined by cubical cells. The large and small bronchi showed fibrosis of the walls, as well as a chronic cellular inflammatory reaction. Sections from the upper lobes showed

almost nothing except relatively broad bands of scar tissue, separating air spaces.

Sections from the left ventricle showed a semi-necrotic appearance of the musculature just beneath the endocardium of the papillary muscle bundles associated with a moderate polymorphonuclear leucocytic infiltration. Deeper in the myocardium there were small areas of sarcolysis where the muscle fibers had disappeared, leaving only the sarcolemnal cells as a scaffolding. Fragments of a mural thrombus were still present and demonstrable in the sections in these locations. In other sections, there was a moderate amount of fat infiltration usually toward the outer aspect of the myocardium and some myocardial fragmentation. The ostium of the left coronary artery was plugged with a clot, which showed the usual features of a thrombus. There was no change in the coronary artery proper; the lining of the wall at this level showed no obvious disease and no evidence of organization of the thrombus. Sections along the left coronary artery demonstrated no disease of the lining and the clot was free in the lumen, although it came in direct contact with the lining in a short segment on one side. This was thought to be characteristic of an embolus that had originated from the mural thrombus. The thrombus in the aorta on section resembled the clot found in the coronary artery.

Anatomic Diagnosis: Grossly, the heart was dilated and slightly hypertrophied, 360 grams. The heart revealed ischemic changes in the inner portion characterized by necrobiosis and small foci of sarcolysis. The mural thrombus had broken away and fragments of it had plugged the ostium of the left coronary artery, producing a coronary embolus.

The lungs showed a chronic pneumonitis and fibrosis with rather extensive emphysema, more pronounced in the upper lobes and the right middle lobe where large emphysematous bulli or cysts were seen. Even in the lower lobes that appeared dense, meaty and tough, there was some evidence of emphysema. The initiating lesion was probably a pneumonitis resulting in rather extensive fibrosis and obstruction to the respiratory passages which was the mechanism of the emphysema.

DISCUSSION

This patient had pulmonary fibrosis with emphysema. The heart was dilated with a mural thrombus in the left ventricle, from which an embolus had broken loose and occluded the left coronary artery. There was also a large embolus lying free in the aorta. There are two criteria that should be fulfilled if one is to be certain that the occlusion of the coronary vessel is due to an embolus. First, it is necessary to demonstrate a possible source for the embolus, such as the mural thrombus in this case. Second, the obstructed artery must be free from disease which would be sufficient in itself to cause the occlusion. In this case, the coronary vessels were entirely free of disease. Mural thrombi occur quite frequently in the course of heart disease, in about 25 per cent of all cases, and from them emboli may break off and be carried to other organs by the blood stream. Often they lodge in organs where they do not produce symptoms, but they may occlude large vessels or lodge in organs where even small infarcts produce grave symptoms, such as in the brain and the heart. Cerebral emboli occur frequently during the course of heart disease, but because of the size, position, and peculiarities of the coronary circulation, coronary emboli occur infrequently.

The diagnosis of coronary occlusion produced by a large coronary embolus is admittedly a difficult one to make. The symptoms are not distinctive but are those encountered in coronary occlusion from any source. Hammon[1] has pointed out one special feature, namely, that death is very sudden, indeed often instantaneous. This is attributed to the fact that the coronary vessels are healthy and the heart unprepared, by the gradual development of an efficient collateral circulation, to withstand the effects of occlusion of a large branch. This finding, though, is not sufficiently distinctive to be diagnostic. Coronary thrombosis secondary to atherosclerosis may occur at any age, and frequently in the thirties and twenties. Nevertheless, when the symptoms of coronary occlusion develop suddenly in an individual under forty years of age, it should arouse the suspicion that the occlusion may be due to an embolus.

The differential diagnosis of coronary occlusion from an embolus or from coronary thrombosis is largely of academic interest, as pointed out by Hammon;[1] yet, it may have some practical value to the patient. Usually when a large coronary vessel is occluded by an embolus, death is sudden because the coronary vessels are healthy and have not developed a collateral circulation, as seen in coronary atherosclerosis. The immediate prognosis is, therefore, bad.

If the patient is fortunate and survives the attack, the ultimate prognosis is good, because the coronary vessels are healthy and recovery may be complete and there is less reason to fear repetition of the accident.

SUMMARY

A case of coronary embolism arising from a mural thrombus, occluding the left coronary ostium and extending down into the uppermost portion of the first descending ramus is reported.

REFERENCES

1. Hammon, Louis: Coronary embolism, Am. Heart J. 21:401, 1941.
2. Applebaum, Emanuel, and Nicolson, Gertrude H. B.: Occlusive diseases of the coronary arteries, Am. Heart J. 10:662, 1935.
3. Garvin, Curtis F., and Work, John L.: Coronary embolism, Am. Heart J. 18:747, 1939.
4. Jacobi, Mendel, Kehler, Maurice, and Silverman, Irving: Paradoxical embolism of the coronary artery, Am. Heart J. 9:414, 1934.

CLINICAL STUDY OF THE HYPOTENSIVE EFFECT OF TWO VERATRUM VIRIDE PRODUCTS*

HOMER J. DUPUY, M. D.
JOHN SIGNORELLI, M. D.
ALBERT M. ATTYAH, M. D.
NEW ORLEANS

This report is based on observations made of a group of ambulatory patients on a clinic status. Two of the Veratrum viride products were used; namely, vertavis and a newer product 50280. Vertavis is the biologically standardized Veratrum viride preparation supplying all of the natural alkaloids and glycosides of the whole drug. Information available to us indicates that the active ingredient of 50280 is the amorphous alkaloids of Veratrum viride. Both drugs were administered solely by the oral route in divided doses, the unit of dosage being in milligrams for the product 50280 and craw units for vertavis. The Irwin, Neisler Company now uses the CSR unit (carotid sinus reflex) as measure of potency; 130 CSR units being the equivalent of 10 craw units.

Pharmacologically these drugs are said to have a parasympathomimetic action by causing a reflex mechanism to be set up originating in the myocardium of the left ventricle, causing vasodilation by a central neurogenic reflex.

A group of 25 patients in the age group of 24 to 62 were studied using vertavis and 25 patients in the age group of 21 to 58 for 50280. It was felt that should there be a significant hypotensive effect noted from either drug that a larger series of cases would be used. We have been following most of these patients for a period of four years and are acquainted with the individual variations of the blood pressure of each. In all of these patients the diagnosis of essential hypertension was confirmed by physical findings and laboratory studies.

Table 1 indicates the clinical data of the two groups:

TABLE 1

	50280	VERTAVIS
No. of Cases	25	25
Age		
Average	36.7 yrs.	40 yrs.
Extremes	21 to 58	24 to 62
Sex	20 Females 5 Males	18 Females 7 Males
Race	23 Colored 2 White	16 Colored 9 White
Dosage Range	6 to 15 mgm.	40 to 100 craw units
Duration of Therapy	3 to 8 weeks Average: 5 weeks	5 days to 24 weeks Average: 8.6 weeks

In the group treated with vertavis no hypotensive effect was noted. Twelve per cent showed a toxic reaction, consisting of dizziness, nausea and vomiting, when the dosage reached or exceeded 50 craw units daily.

In the group treated with 50280 only one patient showed a minimal hypotensive effect at the onset of treatment; as therapy was continued the hypotensive effect was no longer noted. The toxic effects of this drug were of the same nature as those seen with vertavis but of a higher incidence and greater intensity.

The medical literature contains many reports noting the efficacy of the Veratrum viride drugs for essential hypertension. Freis and Stanton,[1] using vertavis, reported

*From the Hypertension Clinic, Louisiana State University Unit, Charity Hospital, and the Department of Medicine, Louisiana State University School of Medicine, New Orleans, Louisiana.

the therapeutic dose varying from 10 to 40 craw units in those patients who responded to the drug. They pointed out the necessity of adjusting the dosage to the individual. Many others have reported favorable results with this drug. We have not been able to confirm these findings. There is no doubt that if the Veratrum viride preparations are administered orally in sufficiently large doses a sustained hypotensive effect at a shock level is obtained. The dosage range necessary to get a satisfactory drop in blood pressure and that dosage which produces a shocklike state, while variable in different individuals, are so closely approximated that it is impractical and almost impossible to maintain a patient on these drugs and get a satisfactory blood pressure fall without approaching dangerous hypotensive levels or toxic manifestations of the drug.

We have observed a definite but unsustained hypotensive effect on a small group of patients who received Veratrum viride by the intravenous route. This method of use may be of definitive value in the therapy of hypertensive crises, but for the long term ambulatory treatment of essential hypertension, this form of therapy is not practical. It may be also mentioned that various other drugs, including the barbiturates, have a temporary hypotensive effect when administered intravenously.

NOTE: The drug 50280 was supplied by S. E. Massengill Co. The drug Vertavis was supplied by Irwin, Neisler & Co.

REFERENCES

1. Freis & Stanton: Am. Heart J. 36:723 (Nov.) 1948.

ENDOMETRIAL HYPERPLASIA

ARMAND G. McHENRY, M. D.
MONROE

Endometrial hyperplasia is the most frequent condition associated with functional uterine bleeding. This entity was first described by Cullen in 1900, and given the term "hyperplasia" by Welch.[1]

In regard to the etiology of hyperplasia, one can probably state that it is a disease of hypophyseal ovarian dysfunction.[1] This condition is characterized by the failure of ovulation with a persistence of unruptured graafian follicles, and thus, there is an absence of corpus luteum and its secretion, progosterone. According to Burch[2] this disorder represents one stage in the process of ovarian failure and may be due to inherent ovarian disease or to extraovarian causes such as pituitary disease or other endocrine lesions. Endometrial hyperplasia as one would expect is usually associated with hyperestroginism but one cannot always find an excess of estrogens in blood or urine.[1] The excessive estrogenic stimulus comes from the unruptured graafian follicles. Novak[3] has emphasized that the amount of bleeding may be dependent upon the amount and duration of this estrogenic stimulus and the receptivity of the endometrium. The bleeding is due to estrogenic withdrawal and is tied up with the ovarian-pituitary relationship. There is no definite correlation between the degrees of endometrial hyperplasia and the amount of uterine bleeding.[3]

PATHOLOGY

The diagnosis of this interesting condition can only be made in the pathological laboratory. The gross characteristics of hyperplasia are variable. In certain cases the endometrium may be overgrown and polypoid, so that curettage yields copious quantities of tissue. This polypoid tissue may readily be confused with adenocarcinoma of the body of the uterus. The tissue in cancer is usually friable with considerable necrosis, while in polypoid hyperplasia, the tissue is smooth and velvety.[4]

In a larger number of cases the endometrium does not show this polypoid overgrowth and may or may not be of normal thickness.[3]

The microscopic picture of hyperplasia, as the name would indicate, reveals an increase in the glandular and stromal elements. The glands are taller and may also reveal mitoses and the stroma is dense and may also show mitotic activity. The gland pattern may be distinctive and reveal large and cystic as well as small glands producing the so called Swiss-cheese pattern sug-

gested by Novak.[3] Localized areas of necrobiosis may occur.

Incidentally, in cystic glandular hyperplasia the ovaries generally show an absence of functioning corpora lutea, presence of small or large follicle cysts, and stromal hyperplasia. It may be possible that the excessive ovarian stroma may prevent ovulation and thus lead to follicular cyst formation.

Another form of hyperplasia is the so-called adenomatous hyperplasia which is characterized by a proliferation of the epithelial glandular epithelium in such manner that microscopically the glands appear to be back to back with a minimum of stroma in between them. The cells are regular in size, with uniform nuclei.[5]

Other variations may occur. Pseudo-stratified masses with intraglandular buds may occur, synctial-like epithelial changes may be noted as well as squamous metaplasia.

Certain cases of hyperplasia may produce such an atypical picture as to simulate adenocarcinoma or actually be carcinomatous. Large pale eosinophilic cells have been described in atypical adenomatous hyperplasia and have been said to represent carcinoma in situ of the endometrium.[5]

It should also be mentioned that hyperplasia of the stromal elements may occur and develop into sarcoma.[3]

MANAGEMENT

As to management of hyperplasia, it seems feasible to divide the cases into three groups: pubertal, active sexual life, and postmenopausal.

In the girls at puberty with this form of functional uterine bleeding, one can be conservative. Careful blood studies should be done to rule out any hematologic anomalies such as pseudohemophilia that could account for the bleeding. Anemia should be corrected with one of the hematinic preparations or with transfusions. Thyroid has proven of definite value. Progesterone has proven to be very efficacious for the control of pubertal bleeding.[6] Frequently anovulatory bleeding is replaced by ovulation, corpus luteum formation and progesterone secretion after several months.

The next group among whom this condition is encountered are the women in the active sexual life. Usually these women are extremely obese and the fat distribution may suggest a pituitary disturbance. They tend to be nulliparous or give a history of relative or recent infertility. Not infrequently, they exhibit moderate to severe anemia and are partially or totally incapacitated because of anemia from uterine hemorrhage. These patients should be hospitalized and must have a thorough dilatation and curettage. Hyperplastic endometrium has frequently been found to exist with extensive pelvic inflammatory disease, endometriosis, and was recently noted by myself in a case of extensive pelvic tuberculosis. It may occur with certain solid ovarian tumors but this will be discussed later. Anyway, associated pelvic pathology must be ruled out at the time of D & C by careful pelvic examination. Adenocarcinoma of the endometrium must be considered. It should also be emphasized that curettage may serve not only as a diagnostic measure but in a significant number of cases has proven of therapeutic value.[1]

The anemia should be corrected by transfusions, if necessary, or by administration of iron preparations.

It has been my policy to obtain basal metabolic rates on all of these patients, and administer thyroid if needed. These patients are also placed on an 800 calorie diet if obese, and are frequently given medication to curtail the appetite, if not contraindicated.

It seems logical to correct this disorder by means of endocrine substitutional therapy. Chorionic gonadotropins have not been used by me and appear to be of limited value in this condition.

The androgens have proved of value in some hands but have not been used by myself to any great extent because of the undesirable side effects.

Estrogens may be used in large doses for

hemostasis and are said to stimulate luteinizing hormone production when given in small dosages; however, the estrogens have not been used by myself because a hyperestroginism has been shown to exist with hyperplasia and it would seem that this is adding fuel to the fire.

The administration of progesterone seems to be the logical approach to this condition. Progesterone tends to correct the immediate uterine pathology, that is, the endometrial proliferation by converting this type of endometrium to a secretory one. This bleeding is expected within thirty-six to seventy-two hours and has been termed a medical curettage by Albright. Thus a menstruating endometrium with fragmentation and necrosis is produced.

It is hoped that the administration of progesterone may correct the ovarian pathology by restoring cyclic ovulation. I have been giving progesterone, 50 mg., on the twenty-fifth day of the cycle by a single injection and have found it to be extremely satisfactory. I have only used this form of treatment in eight cases and have not followed the cases sufficiently long enough to properly evaluate the medication. All cases have had an initial D & C, and B.M.R, and have been on diets and thyroid when indicated. One case was taken off of progesterone after three months of therapy and reverted back to an ovulatory cycle with hemorrhage.

Endometrial biopsies have shown good secretory endometriums in all cases. Surgery has not had to be resorted to and menstrual periods have been restored to normal, as well as correction of anemia in all of the cases to date.

The presence of endometrial hyperplasia in a postmenopausal woman is of extreme significance. This condition is most likely to occur in women with a delayed menopause who give a history of long standing menstrual irregularities. The hyperplasia may be retrogressive or active. If the hyperplasia is retrogressive, it signifies that menstruation ceased with the endometrium in a proliferative and hyperplastic state, and if there is no microscopic evidence of activity, curettement is adequate. This type of hyperplasia does not signify estrogenic stimulation.

In all cases of postmenopausal bleeding a curettage is mandatory to rule out malignancy. If the scrapings reveal active hyperplasia one should search for the cause of estrogenic stimulation. If an adnexal tumor is palpated, one should do a laparotomy and probably encounter an ovarian tumor of granulosa or thecal cell origin. The patient should be questioned carefully to see if hormonal therapy was being administered and if so, it should be discontinued. If active generalized hyperplasia or adenomatous hyperplasia is encountered postmenopausally upon curettement, the patient is best treated by a panhysterectomy or a cancerocidal dosage of radium. Certainly, this is the best plan of management if proper medical facilities are not available for a careful follow-up after a diagnosis of active hyperplasia is made postmenopausally.

The relationship between endometrial hyperplasia and adenocarcinoma is intriguing and quite controversial. There is enough evidence supporting prolonged estrogenic stimulation as being a factor in the production of both conditions to prevent the promiscious administration of massive dosages of estrogens. Estrogenic administration should be contraindicated in women at, near, or past the menopause who have had irregularities of menstruation, or specifically, endometrial hyperplasia.

REFERENCES

1. TeLinde, Richard: Operative Gynecology. J. B. Lippincott Co., Philadelphia, pp. 409-412.

2. Burch, L. E. and Burch, J. C.: South. M. J. 43:112, 1950.

3. Novak, Emil.: Gynecological and Obstetrical Pathology. W. B. Saunders Company, Philadelphia, pp. 158-173.

4. Faulkner, Robert L.: Am. J. Obst. & Gynec. 62:321, 1951.

5. Corscaden, James A.: Gynecologic Cancer. Thomas Nelson & Sons, pp. 203-211.

6. Gray, Lamar A.: Am. J. Obst. & Gynec. 58:1169, 1945.

ACUTE INTUSSUSCEPTION IN ADOLESCENTS AND ADULTS*

WALTER F. BECKER, M. D.

NEW ORLEANS

That acute intussusception occurs in adolescents and adults with sufficient frequency to warrant consideration is proved by an analysis of 1007 cases of acute mechanical obstruction occurring at Charity Hospital of Louisiana at New Orleans, during the ten year period 1940 to 1949, inclusive.[1] Of the 74 cases of acute intussusception seen in this institution during this period, 6 occurred in patients who were 14 years of age or older. Four additional patients were seen in 1951. A study of these 10 cases of adult intussusception forms the basis of this report.

CASE HISTORIES

Case No. 1.—E. H., a 15 year old colored female, was admitted to one of the gynecological services on September 25, 1940. The record contained an inadequate account of the history and physical findings, but she apparently had had cramps and vomiting for seventy-two hours. Her blood pressure was 90/70; pulse 120. Pelvic examination revealed diffuse pelvic tenderness with bulging of the cul de sac and vaginal fornices.

A diagnosis of ruptured ectopic pregnancy was made, and laparotomy performed with discovery of an ileoileal intussusception. A surgical consultant then exteriorized a long segment of gangrenous ileum and performed a proximal tube ileostomy. The patient died three hours later of shock and peritonitis.

Postmortem examination revealed multiple adenomatous polyps scattered throughout the small and large intestine. An ileal polyp had been responsible for the intussusception.

Case No. 2.—H. L., a 35 year old male, entered the hospital on June 26, 1946, with a sixteen hour history of abdominal cramps, nausea, and diarrhea without bleeding. For seven years he had experienced similar, but much less severe attacks. Examination revealed right lower quadrant tenderness, rebound tenderness and rigidity, with slight generalized abdominal distention. Tenderness was elicited high on the right side on rectal examination, and two of four examiners mentioned the possibility of a right lower quadrant mass. The diagnosis was acute appendicitis with probable perforation; but operation disclosed an early reducible idiopathic ileocecal intussusception. A smooth recovery followed.

Case No. 3.—H. T., an 18 year old colored female, entered the hospital on September 21, 1946, with a twenty-four hour history of nausea, vomiting, abdominal cramps, and complete obstipation. Her past history indicated that for five months she had had repeated episodes of mild cramping abdominal pain and constipation; but melena and vomiting had not occurred. Physical examination revealed dehydration, slight abdominal distention, left lower quadrant tenderness, and hyperperistalsis. Multiple dilated loops of small bowel containing fluid levels were demonstrable by x-ray.

A diagnosis of intestinal obstruction due to adhesions was made, but laparotomy revealed a strangulated ileoileal intussusception, which was reduced, the involved segment of bowel resected, and an end to end ileoileostomy performed. A pedunculated polyp of the midileum measuring about 2 cm. in diameter was responsible for the intussusception. The patient recovered.

Case No. 4.—C. M., a 38 year old colored female, entered the hospital on April 29, 1947, with a five week history of repeated mild attacks of cramping epigastric pain which had begun six days following a normal delivery and postpartum convalescence. Five days prior to admission she developed severe abdominal cramps, vomiting, and complete obstipation. Examination disclosed dehydration, blood pressure 120/75, pulse 100, temperature 100, diffuse abdominal and pelvic tenderness, and hypoactive peristalsis. There was no distention, palpable mass, or blood in the rectum. Dilated loops of small bowel containing fluid levels were demonstrated by an erect scout film of the abdomen.

The initial diagnosis was pelvic inflammatory disease with peritonitis and paralytic ileus. The patient appeared greatly improved after twenty-four hours of non-operative tube decompression and the parenteral administration of fluids, electrolytes and penicillin. Conservative therapy was abandoned when hyperperistalsis and severe cramps appeared. Laparotomy performed thirty-eight hours after admission revealed an ileoileal intussusception with strangulation of the intussusceptum, which contained at its apex a pedunculated fibroma measuring 3 cm. in diameter. A resection of a long segment of ileum with an end to end ileoileostomy was followed by recovery.

Case No. 5.—J. M., a 56 year old colored male, entered the hospital on December 8, 1947, with a seventy-two hour history of abdominal cramps, vomiting, and rectal bleeding. He had periodically experienced mild symptoms of intestinal obstruction over a period of nine months, and in April 1947, had been a patient in the hospital, where, after proctoscopic examination and barium enema, a diagnosis of lymphopathia venereum with a high rectal stricture had been made. At the time of

*From the Department of Surgery, Louisiana State University School of Medicine, and the Charity Hospital of Louisiana at New Orleans.

the current admission, examination showed only minimal tenderness and distention with diminished peristaltic sounds. The proctoscopic examination was negative and attempts at barium enema were unsuccessful. The diagnosis was partial left colon obstruction, but immediate active treatment apparently was not considered necessary. On the seventh hospital day the patient suddenly became critically ill and exhibited signs of peripheral circulatory collapse due probably to a perforated intraperitoneal viscus with peritonitis and paralytic ileus. Laparotomy disclosed a strangulated ileoileal intussusception with a perforation and peritonitis. A pedunculated ileal adenocarcinoma was found protruding through the defect in the ileal wall. The involved segment of bowel was resected. The patient died three hours following operation.

Case No. 6.—S. P., a 46 year old colored female, entered the hospital on March 6, 1949, after two weeks of abdominal cramps, vomiting, bloody diarrhea, and a sensation of pressure in the rectum. Examination disclosed a moderate amount of abdominal distention, hyperperistalsis, a vague left lower quadrant mass, and a bleeding mass in the lower rectum which was identified by the examiner as a sigmoidal carcinoma which had become invaginated into the lower rectum.

Six hours after admission laparotomy confirmed the diagnosis of sigmoidorectal intussusception. The mass was wedged deep into the pelvis below the peritoneal deflection, but was finally reduced by pressure exerted from below by an assistant. A transverse colostomy was performed, and three weeks later a sigmoidectomy was successfully carried out with removal of a carcinoma which had not metastasized to the regional lymph nodes.

Case No. 7.—C. D., a 48 year old colored male, was admitted to the hospital on June 10, 1951, with a forty-eight hour history of cramping abdominal pain, vomiting and the passage of two loose stools which did not contain blood. Twelve hours before admission he became aware of the presence of a tender right lower quadrant mass. Twelve years before he had been treated conservatively at this hospital for a somewhat similar attack. Examination disclosed a visible palpable right lower quadrant mass with generalized abdominal rigidity, tenderness, and rebound tenderness which were most pronounced in the right lower quadrant. Diffuse tenderness was elicited on rectal examination. A roentgenogram of the abdomen was considered negative. The initial diagnosis was acute appendicitis with perforation and abscess formation. The patient's condition deteriorated during the course of forty-eight hours of conservative treatment and a decision was made to incise and drain the appendiceal abscess. At operation, there was discovered an ileocecal intussusception with gangrene of the intussusceptum at the apex of which was a 3 cm. polyp. A resection of the involved segment of bowel was performed and intestinal continuity restored by ileocolostomy. Recovery followed.

Case No. 8.—P. G., a 32 year old white male, was admitted to the hospital on July 3, 1951, with a ten hour history of severe abdominal cramps, vomiting, and passage of three watery stools which did not contain blood. During the preceding three or four months, he had experienced several episodes of mild abdominal cramps. Examination revealed him to be acutely ill with tenderness and rebound tenderness in the right lower quadrant and hyperperistalsis. Tenderness was elicited by rectal examination high on the right side; no blood or mass was evident. A roentgenogram of the chest showed active bilateral pulmonary tuberculosis, but the plain upright abdominal scout film was considered normal. The initial diagnosis was gastroenteritis. Because of increase in the severity of the symptoms, laparotomy was resorted to eight hours after admission, and an ileocolic intussusception was discovered, easily reduced, and appendectomy performed. There was much thickening and induration of the terminal ileum, but no definite localized lesion was identified with certainty, and the operator classified the intussusception as being of the idiopathic type. However, microscopic examination of the appendix revealed typical tuberculous lesions in which tubercle bacilli were identified. It seems reasonable to postulate that a tuberculous ulcer in the ileum might have been responsible for the intussusception. The patient recovered.

Case No. 9.—M. E., a 24 year old white female, entered Charity Hospital on September 3, 1951, on one of the gynecological services with a three day history of severe lower abdominal cramps, vomiting, weakness and obstipation. Twenty-four hours before admission she had lost consciousness for a few minutes. Her menstrual history was normal, and vaginal bleeding had started forty-eight hours after the onset of the pain. The patient had experienced many similar, but less severe, attacks of abdominal cramps over a period of eight or ten years. She was acutely ill, with tenderness and rebound tenderness throughout the lower abdomen. There was a tender, palpable mass in the right lower quadrant. Pelvic examination disclosed a tender, 7 cm. mass high in the right lateral pelvis, and a diagnosis of twisted ovarian cyst was made. Laparotomy disclosed a gangrenous irreducible ileoileal intussusception. A surgical consultant resected a long segment of involved ileum and effected an end to end ileoileostomy. At the apex of the intussusception was a pedunculated 3 by 2 by 1 cm. lesion with a pedicle measuring 2 cm. in length and 1.5 cm. in thickness. The microscopic diagnosis was polypoid hemangioma with extensive fibrosis. The patient recovered.

Case No. 10.—J. S., a 14 year old colored boy, was admitted to the hospital on December 28, 1951, with a twelve hour history of abdominal cramps,

TABLE 1

ACUTE INTUSSUSCEPTION IN ADULTS AND ADOLESCENTS
SUMMARY OF CLINCAL DATA IN 10 CASES

Case	Age	Sex	Color	Clinical Features						Pre-op. Diagnosis	Type of Intussusception	Etiology	Operation	Result
				Pain	Vomiting	Bleeding	Mass	Diarrhea	Previous Attacks					
1. E. H	15	F	C	yes	yes	no	no	no	no	Ruptured ectopic pregnancy	Enteric	Polyp	Exteriorization, tube, ileostomy	Death
2. H. L.	35	M	W	yes	yes	no	yes	yes	yes	Appendiceal peritonitis	Ileocecal	Unknown	Reduction, appendectomy	Recovery
3. H. T.	18	F	C	yes	yes	no	no	no	yes	Acute adhesive ileus	Enteric	Polyp	Resection	Recovery
4. B. M.	38	F	C	yes	yes	no	no	no	yes	Pelvic inflammatory disease	Enteric	Fibroma	Resection	Recovery
5. I. M.	56	M	C	yes	yes	no	no	no	yes	Rectal stricture	Enteric	Carcinoma	Resection	Death
6. F. P.	46	F	C	yes	yes	yes	yes	yes	no	Intussusception	Colic	Carcinoma	Reduction, transverse colostomy	Recovery
7. C. D.	48	M	C	yes	yes	no	yes	yes	yes	Appendiceal abscess	Ileocecal	Polyp	Resection	Recovery
8. P. D.	32	M	W	yes	yes	no	no	yes	yes	Gastroenteritis	Ileocecal	Tuberculous ulcer?	Reduction, appendectomy	Recovery
9. M. E.	24	F	W	yes	yes	yes	no	no	yes	Twisted ovarian cyst	Enteric	Hemangioma	Resection	Recovery
10. J. S.	14	M	C	yes	yes	yes	yes	yes	yes	Intussusception	Ileocecal	Unknown	Reduction	Recovery

vomiting, and the passage of two watery, blood-stained stools. He had had two similar, milder attacks in 1949. Examination showed tenderness, rebound tenderness, and a right lower quadrant mass. A diagnosis of intussusception was made and by hydrostatic pressure with a barium enema the invagination was reduced from the midtransverse colon back to the cecum. The impression that the reduction was incomplete was confirmed by laparotomy, which disclosed a surgically reducible ileocecal intussusception, the etiology of which was undetermined. A smooth convalescence followed.

DISCUSSION

The pertinent clinical data concerning these 10 cases of intussusception occurring in adults and adolescents are summarized in Table 1.

The Charity Hospital experience with the disease in infants and young children was recently reviewed by Kahle.[4]

Infants and children less than 3 years of age account for about 75 per cent of the patients with acute intussusception; and in this group the clinical picture is usually so characteristic that diagnosis is relatively simple. Almost invariably present are the 4 cardinal symptoms of the disease:

1. Periodic attacks of pain.
2. Vomiting.
3. Passage of mucus and blood by rectum.
4. A palpable tumor in the abdomen.

That the uniformity of the clinical picture is lacking in adults and adolescents with intussusception is well illustrated in the 10 cases herein reported. While vomiting and cramping abdominal pain were experienced by every patient, blood was passed by rectum or was detected by digital examination in only 3 of the 10 cases, and a mass was palpable by abdominal or rectal examination in only 4 cases. Five of the patients had diarrhea.

Recurrent intussusception in infants and young children is rare; but adolescents and adults with intussusception not infrequently relate a past history of repeated episodes of abdominal cramps and vomiting and other obstructive symptoms. Eight of the 10 patients in the present series had experienced previous, less severe, attacks.

A correct diagnosis was made prior to operation in only 2 instances. The 8 different preoperative diagnoses listed in Table 1 reflect the wide variation in the clinical pictures observed in this group of older patients.

The majority of intussusceptions in infancy and young children occur about the ileocecal region. While most reports indicate that the colon is the most common site of intussusception in the adult, only 1 of the 10 cases of intussusception in the present series was of the colic variety. Five were enteric, 3 were ileocecal, and 1 was ileocolic.

In most cases of intussusception in infants, it is impossible to identify a specific etiologic factor in the genesis of the invagination, whereas in adults there is usually present a causative lesion, such as a neoplasm, Meckel's diverticulum, or ulceration. An analysis of 300 cases of adult intussusception by Eliot and Corscaden[2] indicated that a tumor was found in 40 per cent of the cases, of which 24 per cent were benign and 16 per cent were malignant. Tuberculous, bacillary, or typhoidal ulceration in the bowel was responsible for 14 per cent of the cases of intussusception; a Meckel's diverticulum was present in 12 per cent; and in a few instances these authors felt that trauma had initiated the intussusception. In the present series of 10 cases, a tumor was found at the apex of the intussusception in 8 cases; a tuberculous ileal ulcer was probably the etiologic factor in 1 case; and there were 2 cases of the so-called "idiopathic" variety.

The treatment of election is early operative reduction of the invagination. It must be admitted that intussusception has been reduced by hydrostatic pressure with barium enema with remarkable success in certain clinics.[3, 5] Nonoperative reduction probably should not be attempted in adults because of the frequency with which intestinal neoplasms exist as the causative factor in the genesis of the invagination. The involved bowel must be resected when the intussusception is irreducible or when strangulation is irreversible. Resection was performed in one-half of our cases. The

various operative procedures employed in the present series are listed in Table 1.

SUMMARY AND CONCLUSIONS

About 10 per cent of patients with acute intussusception are over 14 years of age.

Ten cases of adolescent and adult intussusception are reported with 2 deaths.

In infants and young children the signs and symptoms are usually so characteristc that diagnosis is simple; but this uniformity of the clinical picture is lacking in adults and adolescents, and in this latter group a correct preoperative diagnosis is rarely made.

The etiology, diagnosis, and treatment of the disease are briefly considered.

REFERENCES

1. Becker, Walter F.: Intestinal Obstruction. An analysis of one thousand and seven cases. (To be published).

2. Eliot, E., Jr. and Corscaden, J. A.: Intussusception with special reference to adults. Ann. Surg. 53:169, 1911.

3. Hipsley, P. L.: Intussusception and its treatment by hydrostatic pressure; based on analysis of one hundred consecutive patients so treated. M. J. Australia 2:201, 1926.

4. Kahle, H. R.: Intussusception in children under two years of age. Surgery 29:182, 1951.

5. Ravitch, M. M. and Morgan, R. H.: Reduction of intussusception by barium enema. Ann. Surg. 135:596, 1952.

CHONDRODYSTROPHIA CALCIFICANS CONGENITA (DYSPLASIA EPIPHYSIALIS PUNCTATA)

J. W. BIRSNER, M. D.*
ROBERT COHEN, M. D.**
BAKERSFIELD, CALIFORNIA

Thirty-eight cases of chondrodystrophia calcificans congenita have been published. Thirty-two of these cases have been tabulated in a recent paper by Swoboda[1] and three cases have been added to the literature in the last twelve months by Putschar,[2] Savignac,[3] and Haynes and Wangner.[4] The diagnosis is established radiographically and the cause of the disorder is unknown.

The unusual findings in the present case are: (a) the exceptional number of foci in the epiphyseal and cartilaginous portions of the skeleton; (b) the absence of achondroplasia; (c) the presence of bilateral optic atrophy without evidence of cataracts; (d) the association of extraskeletal anomalies.

CASE REPORT

Robert F., 7 month male Mexican, second child of short, obese, healthy seventeen year old Mexican female. (Identity and whereabouts of the father are not known). Normal male infant, born by

Figure 1

Figure 2

*Attending Staff in Radiology, Kern General Hospital, Bakersfield, Calif.

**Attending Staff in Pediatrics, Kern General Hospital, Bakersfield, Calif.

Figure 3

Figure 4

cesarean section; birth weight 8 pounds, 8 ounces. At age seven months: (1) child could not sit up or roll over; (2) eyes wandered, could look at the sun without blinking; (3) no response to loud noises; (4) frequent colds.

Physical Findings: (1) Complete absence of the bridge of the nose with a normal septum present; (2) bilateral symmetrical shortening of the lower extremities; (3) the skin was normal in texture and appearance. (4) Fundoscopic examination (Dr. Glenn Siemon) revealed bilateral optic atrophy, simple in type, probably secondary to aplasia of the optic nerve; the degree of involvement was greater in the left eye.

Investigations: Complete blood count and urine analysis were within normal limits. Kline was negative. Tuberculosis and coccidioidomycosis skin tests were negative. Protein bound iodine was 4.28. Sulkowitch test for calcium was 4.33 mg. per 100 cc of urine; phosphorus 5.5 mg; calcium 10.2 mg; cholesterol 210 mg.

X-rays revealed stippled calcification in all of the epiphyses and in the costal cartilages as well as calcification of the thyroid cartilage.

(Our current plan is to follow this patient at six month intervals by serial x-ray and laboratory examinations).

Bone survey of the mother and sibling failed to disclose any evidence of osseous abnormality.

DISCUSSION

As various authors have pointed out, chondrodystrophia calcificans congenita is a little known radiologic and pathologic entity. There seems to be considerable disagreement as to whether it is more frequent in females than in males. The authors are in accord that this disorder is not familial although each eagerly states it has occurred in siblings and in identical twins. They also state that most of the patients have died in infancy or early childhood of varying types of infection. In all cases where biochemical studies were done, the blood calcium, phosphorus and alkaline phosphatase values were within normal limits.

Fairbank[5, 6] stated there were many conditions in which the epiphyses may show irregular ossification. Cretinism, dysplasia epiphysialis multiplex, and chondro-osteodystrophy of the Morquio-Brailsford type are to be excluded in the diagnosis of chondrodystrophia calcificans congenita.

Finally, the authors feel this entity warrants careful consideration by the geneticist, pathologist and radiologist in an effort to throw some clarification on the many unanswered questions that still exist.

REFERENCES

1. Swoboda, W.: Beitrag zur Chondrodystrophia calcificans congenita, Annals Paediatrici, 175:322 1950.

2. Putschar, Walter G. J.: Chondrodystrophia calcificans congenita (dysplasia epiphysialis punctata), Bull. Hosp. Joint Diseases 12:514 (Oct.) 1951.

3. Savignac, Eugene M.: Chondrodystrophia calcificans congenita, Radiology 58:415 (March) 1952.

4. Haynes, E. R., and Wangner, W. F.: Chondroangiopathia calcarea seu punctata, Radiology 57:547, 1951.

5. Fairbank, H. A. T.: Dysplasia epiphysialis multiplex, British J. Surg. 24:226 (Jan.) 1947.

6. Fairbank, H. A. T.: Dysplasia epiphysialis punctata, J. Bone & Joint Surg. (B) 31-B 114-117, 1949.

EVALUATION OF DISABILITY IN APPLICANTS FOR WELFARE ASSISTANCE

IAN STEVENSON, M. D.
CARYL A. POTTER, JR., M. D.
NEW ORLEANS

INTRODUCTION

In 1950, the Department of Public Welfare of the State of Louisiana revised extensively its system for the evaluation of welfare applicants or recipients where incapacity is a factor. This revision included an extension of the system of medical examining boards in the parishes and the establishment of medical review teams at the State Office of the department to scrutinize every application for welfare assistance. These changes in the method of evaluating applicants have not only resulted in a considerable savings to the taxpayers, but have noticeably improved the service to the applicants. In the past, many doctors have shown curiosity and some have shown concern about the extent and manner of the expenditure of state funds for welfare applicants. This is certainly understandable. Not only are physicians taxpayers, but upon the physicians of the state rests most of the responsibility for the evaluation of the physical and mental conditions of the applicants who are to receive aid because of disability. It was felt that a review of the procedures and criteria of the Department of Public Welfare in evaluating applicants might further enlist the interest and cooperation of the medical profession of the state in this important work. The material which we present is derived from our experiences as members of medical review teams over the past two years.

PROCEDURE FOR EVALUATING DISABILITY

When it is established by the social worker of a parish that the applicant and his family fulfill the financial and other criteria for economic assistance from the Department of Public Welfare, the applicant is referred for a physical examination to his private physician or to a medical institution (such as a State Hospital or Veterans Administration Hospital) or to a parish medical examining board. Medical examining boards are now functioning in about two-thirds of all of the parishes of the state. They are composed of two or three physicians, each of whom examines the patient, usually separately. They then discuss their findings and come to a common decision as to the nature and extent of any physical or mental disability which they find in the applicant. If the illness or degree of disability is not clear, they may request special tests or consultations before making a decision. In those parishes without medical examining boards an examination by one private physician may be submitted to the department. It is generally felt that the medical examining boards provide a better means of evaluating applicants. The chances of error are reduced by having three, rather than one examiner, and the patient is less likely to feel that he is an object of special prejudice or favor if his application is handled by several physicians rather than by one.

All the relevant data obtained by the social workers and by the examining physicians are recorded on a form which is sent to the State Office. There it is reviewed by a medical review team, composed of a trained social worker and a physician. The social workers on the teams are persons of broad experience in the field of social welfare and social work. They are familiar with the various agencies and opportunities which are available to disabled persons, and with various other agencies of the state which may provide some support, (financial or psychological) to an applicant. The doctors on the review teams are physicians of general experience in medicine; some have a particular knowledge of a specialty such as internal medicine or psychiatry which may enable them to offer a more experienced opinion on special problems. If the medical review team concludes that the

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From the Departments of Medicine and Psychiatry, Louisiana State University School of Medicine, New Orleans, Louisiana.

The authors accept responsibility for the statements made in this paper. However, the paper has been reviewed by Dr. Wood H. Scott, Medical Advisor to the Department of Public Welfare, State of Louisiana, and is held to represent the current medical policy of the Department.

data presented substantiate the claim of disability, the application is recommended for approval for varying lengths of time. If, on the other hand, it feels that the application fails to establish disability sufficient to preclude gainful employment at the applicant's usual occupation, it will recommend rejection. If the members of the medical review team feel that further information will permit them to make a fairer decision, they may call for special consultations or special laboratory tests to confirm or exclude certain presumptive diagnoses. They may also call upon expert medical or social consultants of the Department of Public Welfare for opinions on matters relating to the policy of the department. If an application is rejected, the applicant may reapply or he may appeal the decision. His appeal will be heard by a different group of officials in the Department of Public Welfare who will evaluate his application independently of those staff members who have previously handled his case.

Thus it can be seen that the medical data for every applicant for assistance based on disability are evaluated by no less than two (and sometimes by as many as six) physicians before a final decision as to eligibility is reached. We believe this arrangement has helped to eliminate the certification of persons who are not actually disabled for work. It is felt that this has been accomplished without endangering the just needs of those who are disabled or the prerogative of appeal of those who feel their cases have been unjustly decided. Perhaps it is not generally realized that the certification as disabled of a person who is healthy (or at least healthy enough to work) is not only unfair to the taxpayers, but equally unfair to the person thus certified. By this error he is deprived of the opportunity to earn much more than the department can possibly allow him in the way of financial assistance.

The medical review teams focus attention not only on the problem of whether or not the applicant is disabled, but also consider all the constructive, therapeutic, and rehabilitative resources which might be mobilized on the patient's behalf. Because the medical review teams have available a great deal of data about one person, they can often see therapeutic or rehabilitative possibilities which have been overlooked by others who have only seen a portion of the data.

REASONS FOR REJECTION OF APPLICATION BY THE MEDICAL REVIEW TEAM

In a survey of 500 cases reviewed by the medical review teams it was found that the medical review team accepted the recommendation of the examining physicians in 90 per cent of the cases reviewed. This figure is ample testimony to the confidence which the Department of Public Welfare reposes in the practitioners who see these patients and evaluate their disabilities. In 2 per cent of the cases the medical review teams recommended that the patient's application be accepted despite the impression of the examining sources that the patients were not sufficiently disabled to warrant eligibility. This type of decision occurred in circumstances in which the reviewing team had information that the patient was disabled for his usual work to a degree greater than would be obvious from the medical data alone.

For example, a woman with moderate hypertension and arteriosclerosis in her late fifties might be considered disabled for heavy manual labor, but not for less arduous or sedentary work. Her eligibility will be decided more on the basis of social data. This may show that she has no work experience outside her home, no special talents and no education beyond the second grade of school. In a city she would still not be eligible because many jobs such as those in domestic service or even as a waitress in a cafe would be open to such a person. If the same person happens to live in a remote rural area where there is no such employment she is considered sufficiently disabled to warrant certification. Opportunities for work which she is capable of doing are not available to her. Hence a medical review team might find her eligible when a previous examining physician had concluded that she was "able to do her usual work."

In 8 per cent of the cases the recommendation of the examining physician that

the patient be considered disabled was not accepted and a rejection of the application was recommended by the review team. Such rejections occur either when the data furnished are inadequate to establish disability or when the applicant is not sufficiently disabled to need assistance.

A. *Rejection of application because of failure to furnish adequate data about a disabled person.*

In many instances an applicant who may be disabled is not found eligible because the medical data were inadequately recorded on the form for medical and social data by the examining physician or other examining body (e.g. hospital staffs). We wish to stress that the great majority of the forms are carefully and skillfully filled out by the physicians participating in the program. The following examples present exceptions. they are of importance because they illustrate how errors or omissions may result in the rejection of an applicant who is eligible for assistance. The important errors and omissions noticed by the medical review teams are as follows.

1. *Internal inconsistencies of the medical data.* For example, under the heading of "Complaints" may be listed "headache, backache and urinary frequency." Yet under the heading of "Diagnosis," "congestive heart failure" may be given. This is inconsistent. Since the patient is supposedly disabled for his work by congestive failure he must have other complaints than those mentioned under this heading. Similarly it is inconsistent for a physician to make a diagnosis of congestive heart failure and then to record that the lungs are clear, that there is no evidence of distended cervical veins, that the liver is not palpable, and that there is neither dyspnea nor edema.

In most such instances the diagnosis given is no doubt the correct one. However. the medical review teams, not being able to see the patient, are obliged to judge the accuracy of the diagnosis from the data submitted. If the data do not support the diagnosis (or if the patient's complaints are in no way connected with the diagnosis made), then the review team cannot conclude that the applicant is disabled.

2. *Failure to establish a diagnosis by simple laboratory tests.* Common examples of this omission are the diagnosis of nephritis unaccompanied by an urinalysis, or the diagnosis of anemia unaccompanied by a blood count and hemoglobin estimation. If disability is claimed from obesity, the applicant's height and weight must be recorded.

3. *Failure to estimate the severity of the disabling symptoms with regard to the applicant's usual occupation.* Before the eligibility of an applicant can be confirmed it must be shown that (in the words of the Departmental Manual of Policy) "the impairment . . . is sufficiently disabling to prevent the individual from engaging in any useful occupation for which he can qualify and which exists in his community." This involves a more refined estimate of disability than is provided by a diagnosis alone. For example, a person with slight emphysema may be disabled for manual labor requiring continuous exertion, but not disabled for clerical work. A person with severe emphysema at rest may be unable even to get to work. Similarly a person with arthritis may have a little backache accompanied by slight lipping of the vertebrae in the x-rays of the spine, or he may be completely immobile in bed. There are in fact few illnesses in which the severity of the symptoms is not as important as the diagnosis itself in evaluating disability.

4. *The use of vague, or ill-defined, or outmoded diagnostic terms.* Among terms which are inadequately descriptive of the disability of the applicant are such expressions as "run down condition," "general weaknesss," "nervousness," "general debility," "malnutrition," "mentally dull," "arteriosclerosis," "senility," and "myocarditis." The use of the word "myocarditis" is a frequent source of doubt for the medical review team. Does the diagnosis of "myocarditis" mean a person who is bedridden with the pancarditis of acute rheumatic fever, or does it denote an equivocal finding on an electrocardiogram in a person who has disabling symptomatology

which may or may not be related to structural heart disease? If all diagnoses of disabling cardiac disorders were submitted according to the standard nomenclature of the American Heart Association (i.e. etiologic, anatomic, physiologic, functional, therapeutic), there would be little doubt in the minds of the medical review teams as to the exact disability resulting from a diagnosis of structural disease of the heart. Although the terms previously mentioned may be applicable to some extent, they need qualification and amplification before the exact nature and extent of disability can be established.

5. *Failure to furnish adequate details of the physical examination.* If a patient has a widespread carcinoma with metastasis, it is enough for the physician to say so. But in many instances, disability is composed not of one feature, but of several. Thus a patient may have hypertension, poor vision, obesity, osteoarthritis, and hypertrophy of the prostate. Taken together they represent considerable disability, especially if each is present in moderate degree. However, if some of these items are omitted in the report, a person who is actually disabled may not appear so to a review team.

In summary, it may be said that acceptance for assistance because of disability is not entirely dependent upon the opinion of the examining source. Such an opinion must be supported by a diagnosis. In turn, this diagnosis must be supported by the recorded medical data of history and examination (and sometimes laboratory tests) which clearly establish it. Moreover the complaints of the patient must be related to the diagnosis made. Finally, the illness which is diagnosed must be shown to be of sufficient severity to disable the applicant from engaging in his usual work sufficiently to support himself and his family.

B. *Rejection of application because the applicant is not sufficiently disabled according to the criteria of the Department of Public Welfare.*

The majority of the applications which are turned down by the medical review teams are rejected because the applicants fail to fulfill the criteria for physical or mental disability which are currently used by the Department of Public Welfare. It is impossible to comment on every physical and mental illness which may constitute disability. A few comments about certain specific illnesses which are commonly encountered among the applicants may be helpful in guiding physicians in their work with the patients. Many times examining medical sources recommend applicants to the Department of Public Welfare for assistance when the applicant does not have sufficient disability according to the departmental standards to warrant assistance.

Two general principles of evaluation are followed. The first is that the focus of attention is held on rehabilitation of the disabled. When any applicant is certified for an illness which can be controlled or cured, he is expected to cooperate in reasonable treatment which will improve his condition so that he can eventually return to work. Thus, patients with obesity must reduce, those with iron deficiency anemia must take iron, those with diabetes must take insulin if prescribed, and so on.

The second principle is that every case is considered individually both by the examining medical sources and by the medical review teams. Therefore, the folowing remarks on specific disease conditions are to be considered generalities of policy, not absolute rules of judgment. Individual circumstances may always warrant exceptions.

GENERAL CRITERIA FOR DISABILITY

I. Physical Illness.

a. *Conditions which are clearly disabling in every case.* Among many such illnesses are major fractures, active pulmonary tuberculosis, recent myocardial infarction, recent hemorrhage from the lungs and gastro-intestinal tract, congestive heart failure, carcinoma, and cerebral vascular accidents. The duration of disability in each of these conditions will naturally depend upon individual factors such as the availability of treatment, the response of the patient and rehabilitative resources (when indicated) for prosthesis, retraining, job placement, etc.

b. *Conditions which may cause disability if severe, but which are not disabling if mild.* Under this heading are such conditions as emphysema, osteoarthritis, rheumatoid arthritis, hypertension, bronchiectasis and anemia. Since hypertension is a common condition and a frequent reason for application, some further comment is indicated. It is well known that the symptoms of which the patients complain may not be related to the degree of elevation of blood pressure. It is also known that work in moderation is not harmful and probably beneficial to most persons with hypertension. For the most part hypertension by itself causes few symptoms. Many symptoms which are found in patients with hypertension are the result of anxiety or associated involvement of arteries, heart, or kidneys. For these reasons moderate elevation of blood pressure in persons without evidence of significant structural disease of the heart, arteries, or kidneys may not be considered sufficiently disabling by the review teams.

c. *Conditions which are disabling but which are remediable by surgery.* Among such conditions are hernia and varicose veins. These may qualify the applicant for welfare assistance during the period of his disability and for a period of convalescence following surgery. If the applicant is young and there is no contraindication to an operation, it is obligatory for him to submit to a curative operation in order to receive welfare assistance. On the other hand, if he is elderly or if there is some other contraindication to an operation, the disability may remain and he is not obliged to have the operation. He then may qualify for welfare assistance.

d. *Conditions which are initially disabling, but which may be brought under control in the majority of cases by appropriate medical care.* Such illnesses include pernicious anemia, epilepsy, diabetes mellitus, peptic ulcer, and bronchial asthma. In most instances, these illnesses can be controlled, if not cured, by appropriate medication. It is the policy of the Department of Public Welfare to permit an initial period of assistance for several months in order for the patient and his doctor to achieve such control. Afterwards the applicant may not be considered disabled for his usual employment and welfare assistance may be discontinued. Careful individual consideration is given to the merits of each case since it is realized that in some instances these and similar illnesses cannot be controlled sufficiently to permit gainful employment. For example, it is understool that a small percentage (about 20 per cent) of epileptic patients will not respond to the drugs now available for the control of this condition. Similarly a diabetic, although controlled, will still be unable to engage in manual labor if there are associated complications of this condition. A diabetic who is mentally deficient will probably not be able to maintain control of his illness adequately to engage in any kind of work. But for the most part these illnesses can be controlled and maintained in control while the patients are working. Where the claim is made that the illness cannot be controlled, evidence bearing on the therapy applied and the reasons for failure must be presented with the other pertinent data.

Under this heading are also included amputees who are given assistance only until such time when a prosthesis can be fitted (if it is feasible) and the applicant retrained for a new gainful employment.

e. *Illnesses of such short duration as not to warrant assistance.* Included under this heading are most of the acute infectious illnesses such as the common cold, acute bronchitis, pneumonia, and many minor operations such as hemorrhoidectomy. Unless complications occur or other unusual circumstances are present, these conditions are not considered disabling for a long enough period of time to qualify the patient for assistance.

f. *Conditions which are not considered disabling, even though they may be chronic.* We list a number of illnesses which have been erroneously thought by patients or physicians to qualify the applicants for welfare assistance. Even though these conditions may be uncomfortable for the patient they are actually rarely sufficiently disabling to preclude employment. Among such

illnesses are migraine, gonorrhea, menopausal syndrome, uncomplicated arterial hypotension, senile vaginitis, chronic bronchitis, prostatitis, hemorrhoids, and asymptomatic or presumptive gall bladder disease.

A number of other physical illnesses need some mention although they do not properly fall under any of the above headings. Malnutrition must be extreme or warrant intensive studies to determine the underlying cause, before it can be considered disabling. Obesity must be accompanied by evidence of progressive loss of weight in succeeding examinations at intervals of four to six months. A patient who has a fixed positive serologic test for syphilis is not elegible unless there is evidence of structural disease of the cardiovascular or central nervous systems. Such patients are not infectious. Additional treatment will not alter their serology. They can work at any available employment, including child care and food handling, and are not considered disabled.

Finally mention must be made of the fact that chronological age by itself is not disabling. Because of the expectation of receiving an old age pension at 65, applicants sometimes apply in their late fifties or early sixties stating that they feel too old to work. In the absence of clear physical disability for their usual work this claim cannot be allowed.

II. *Mental Illness.*

When we pass from the causes of physical disability to consider mental disability, the problem becomes more complicated. This is because mental illnesses affect in some degree the personality of the patient and interfere with his motivation or drive to productive, constructive, and self-sufficient living. This drive is important for the recovery from any illness, but in a mental illness it is of paramount importance. It is safe to say that no one ever recovered from a mental illness until his drive to constructive and productive living had first been mobilized. This drive is constantly opposed by the patient's anxieties which promote an eagerness for dependency. Such dependency is naturally indulged by the financial aid of a welfare grant and the satisfaction of strivings for dependency may weaken the motivation for recovery.

On the other hand, mental illness is often extremely disabling and may totally and permanently disable a patient from all gainful employment. Such a patient is no less in need of assistance than is a person suffering from a severe fracture or tuberculosis. In each case reviewed, therefore, those responsible for certifying incapacity must weigh carefully the immediate disability from which the patient suffers against the damage which might be done to his chances for recovery by promoting his dependency and weakening his motivation for full recovery. The following notes on specific diagnostic categories are offered as a general guide to policy and are often modified according to the needs of individual cases.

a. Psychoses. All active psychotic states warrant public assistance because the patient is too far out of touch with reality to be capable of holding a job. It is to be recognized, however, that many psychotic patients recover and resume employment. This is particularly true of patients with involutional psychoses, toxic psychoses, and manic-depressive psychoses. Patients who are found to have senile psychoses (including arteriosclerotic psychoses) are not expected to recover with current treatments.

Schizophrenia offers a special problem. It is a chronic illness and the victims rarely recover entirely, although the majority are sooner or later able to make a social adjustment, i. e., live in their homes outside an institution. Of these, many can return to work. Others, however, cannot work gainfully and, indeed, the attempt to force upon them the responsibilities assumed by healthy persons may be quite intolerable and even precipitate a relapse. This may be true even when the patient is superficially normal and there is "no apparent reason" why he cannot work. Usually schizophrenic patients eventually find their own level of activity and employment and should be allowed to do so. To this end case work services offering constructive suggestions and supportive psychotherapy may be invaluable in opening up acceptable employment to the patients.

b. Psychoneuroses. These illnesses rarely interfere with more than a segment of the personality and do not for the most part preclude gainful employment. On the contrary, employment and full activity are usually therapeutic. Such patients are therefore not considered sufficiently disabled to warrant public assistance. Exceptions arise, however, in a number of instances. Three examples may be given: (1) Reactive depressions (e.g. following the death of a relative) may be severe enough to warrant temporary aid. The previous work record of the client is used to determine whether or not a temporary grant would foster an intractable dependency. (2) If a patient arranges to attend a clinic regularly for the purpose of receiving psychotherapy and such attendance would interfere with his working, he can be given temporary assistance just as if he were undergoing surgery or trying to control diabetes. This investment of public funds is more than justified by the greatly improved productive capacity of the successfully treated patient. (3) The Department of Public Welfare also recognizes that a considerable number of middle-aged and elderly women suffer from psychoneuroses which, although not grossly disabling, are nevertheless handicapping to this age group and have less favorable prognoses than similar illnesses in younger persons. Frequently such persons have been able to make a fairly adequate adjustment within the shelter of a family and have perhaps even succeeded in the roles of wife and mother. Nevertheless, they are not sufficiently free of anxiety or sufficiently well adjusted to outside pressures so that they can seek and hold gainful employment. Their symptoms and behavior, perhaps acceptive enough in the circle of their families, may alienate potential employers and provide great difficulty for these persons in their efforts to support themselves to which they may suddenly be called by the death of bread-winning relatives. Again individual factors must be evaluated carefully so that those who do not wish to work are separated from those who cannot.

c. Psychopathic personality. Persons with this diagnosis exhibit to a marked degree conscious evasion of responsibilities and are not considered disabled.

d. Mental deficiency. Persons with severe grades of mental deficiency are definitely eligible since they manifestly cannot be gainfully employed. The borderline mental defectives (morons and above) present another problem calling for careful individual evaluation. Many of these persons make adequate incomes, even sufficient to support a family. Importance is attached to the work record of the applicant up to the time of his application. If he has worked gainfully in the early years of his life there is usually little reason why he cannot continue to do so as long as he is physically able.

On the other hand, attention is given to the availability of manual work (since these persons cannot work with their minds) and of adequate supervision. For example, a mentally defective person may be able to work adequately on a farm under the supervision of a brother, but the same person might be quite disabled if that brother died.

e. Alcoholism. This illness is secondary (in most cases) to an underlying psychoneurosis. The patient simply makes himself more comfortable by reducing his tension with alcohol. The evaluation of eligibility is therefore similar to that of psychoneuroses. Every effort should be made to encourage independence and reduce dependency, and secondary gain from the illness. The disability for working is usually sporadic and is not held to preclude gainful employment. On the other hand, if protracted alcoholism has led to some serious complication—such as hepatitis, cirrhosis, polyneuritis, or psychosis—then the patient is considered disabled and must be given at least temporary assistance until response to treatment and feasibility for rehabilitation can be evaluated.

In the evaluation of mental disability a psychiatric consultation need not often be necessary. If the doctors and social workers who see the applicant will record in detail their observations of the patient's re-

marks and behavior, the disability will often be clear from this alone. On the other hand, when an undocumented general statement such as "mentally dull," or "extremely nervous" is made, the medical review teams are obliged to request further data before making a decision in the applicant's favor.

SUMMARY AND CONCLUSIONS

1. A summary of the current policy of the Department of Public Welfare in the evaluation of persons applying for or receiving welfare assistance because of incapacity has been presented. The role of the examining physician and examining medical sources in evaluating these applicants or recipients has been outlined. Suggestions have been made for the improvement of the data furnished to the department concerning disabilities of the applicants.

2. A review of the criteria currently used by the Department of Public Welfare in evaluating disability among applicants for welfare assistance is presented for the guidance of physicians working with such applicants.

3. It is stressed that such criteria are used flexibly and that every case is considered on its own merits by a medical review team, which carefully scrutinizes all the data before making a final decision concerning the eligibility of any applicant.

The Journal of the Louisiana State Medical Society

Established 1844

Published by the Louisiana State Medical Society under the jurisdiction of the following named Journal Committee:

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1430 Tulane Avenue

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THE JOURNAL *does not hold itself responsible for statements made by any contributor.*

THE CONTEMPLATED EXTENSION OF THE "DOCTOR DRAFT LAW"

The law enacted in 1947, which is spoken of as the "doctor draft law," will expire, unless amended, on July 1, 1953. The need for physicians in the armed services continues. The doctor draft law divided physicians who are potentially available for military service into four categories, and those in the first two categories will be exhausted in the next six months. The armed services are asking for continuation of the law.

At its meeting in Denver, in December 1952, the House of Delegates of the American Medical Association gave only qualified endorsement of this compulsory draft legislation for physicians. They supported legislation "designed to provide the number of medical officers required to care adequately for the health needs of the uniformed armed forces." The Board of Trustees of the A. M. A. and the Council on National Emergency Medical Service were authorized and directed:

1. To follow closely all developments, both national and international, which might affect the quantitative requirements of the armed forces for medical officers.

2. To support legislation designed to provide the number of medical officers required to care adequately for the health needs of the uniformed armed forces, which will, so far as consistent with the public interest, guard the following principles:

A. Physical requirements for medical officers should be realistically revised to the end that physicians with physical defects be utilized with appropriate assignment.

B. More effective recruitment methods should be developed for career personnel in military medicine; and the Armed Forces Medical Policy Council's efforts in this direction should be supported.

C. The greater use of civilian doctors of medicine and civilian hospital facilities, whenever and wherever feasible, in the care of both military and non-military personnel and dependents of military personnel, should be encouraged.

D. Since the total number of doctors of medicine available to the various governmental agencies and for the general health needs of the nation is an irreplaceable pool of relatively fixed proportion, it must be utilized in the most economical and efficient manner.

E. Conditions of service in the several governmental agencies should be sufficiently uniform to avoid undue competition for medical personnel.

F. Consideration should be given to an equitable point system in the induction of

doctors of medicine into the medical departments of the armed services.

In succeeding months, the Department of Defense has established new physical standards for medical officers. It has not taken action in regard to the other items mentioned above. The Bill which the Department of Defense proposes to have introduced, in effect, does the following things:

1. It extends the present law to July 1, 1955.

2. Sets up two priority groups: (a) nonveterans, and (b) veterans.

3. Group A is to go by age, youngest first. Group B to go by service—those with the shortest service go first.

3. Defines military service to include enlisted and commissioned service since September 16, 1940.

4. It would recognize service during World War II with countries which were allies of the United States.

5. It would permit the commissioning of aliens.

6. It would terminate the reserve commissions automatically upon completion of stipulated active duty. This provision would be retroactive to September 9, 1950.

7. It would authorize recall of reservists at rank "commensurate with professional education, experience or ability."

The proposed Department of Defense Bill would not

1. Provide for limitation of age 50 on registration.

2. Would not take cognizance of new registrants who would fall into present priorities 1 and 2.

3. Would not make provision of a bill recognizing allied service in World War II retroactive.

4. Would not make a provision permitting a reduced period of service (17 months) in certain cases retroactive; thus would not help priority 2 men.

5. Would not require registration of nonmedical reservists.

6. Would not permit a reservist to keep his commission even if he wanted to.

The Board of Trustees of the A. M. A., at its meeting, February 7, 1953, made twelve recommendations which may be cited as the official position of the A. M. A. The provisions which are noted above as lacking in the bill are included as being desirable by the A. M. A.

In addition the twelve points request extension of the present law for only one year, and request as a new position an Assistant Secretary of Defense for Health Affairs.

The position of the profession as a whole in regard to the doctor draft law is one worthy of consideration. When it was apparent that the usual operation of the Selective Service law would not supply the needs of the armed services in regard to medical care, the physician, through the A. M. A. accepted the draft law. This was in spite of the fact that such a selective service falls unequally upon physicians and is open to question as to its constitutionality. The law was supported in recognition of the obligation of American physicians to provide adequate care for the armed forces.

The position of the Board of Trustees is a proper presentation of the feeling of American physicians in this important legislation. The Department of Defense should attempt to rectify the inequalities in the operation of the present law.

Two considerations are prominent in the discussions. The armed services apparently wish to maintain the proportion of 3.6 per 1000, and that 1000 by their own standards is the healthiest part of the population, except as the result of battle. Another point is the continued calling of additional physicians into active service whose duty, directly or indirectly, is to provide medical care for dependents of military personnel where civilian care is available.

If such a bureaucratic provision be extended, and if the same principles were to be adopted in operation of the Veterans Administration, there could result a medical empire. This would be state medicine in miniature.

The support of organized medicine should go to the recommendations of the Board of Trustees, and our congressional representatives should be so informed.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

ANNUAL MEETING

The members of the Orleans Parish Medical Society are very happy that the honor of host has been conferred on the Society in having the State Medical Society Convention of 1953 here in New Orleans and also having the meeting of the Women's Auxiliary. The various committees are hard at work preparing a most instructive and enjoyable program. A scientific program in which modern concepts of medicine are approached, presented and discussed, gives to all a short review of recent advances in medical science. Also, the scientific and technical exhibits at this meeting, will be most instructive from the point of recent research in drugs, their action and usage, as well as more recent improvement in medical and surgical instruments.

Then, too, there is always the business session of the meeting in which various important topics are discussed for the betterment of the practice of medicine in Louisiana, as well as the betterment of the State Society.

Most conventions, as you know, give one the opportunity to meet and fraternize with acquaintances which have not been renewed for some time. The committees, entertainment and banquet, will do an excellent job in keeping you busy and well entertained. There will be a golf tournament at Metairie Country Club, luncheon for members of the House of Delegates, and a luncheon in which important personages of the American Medical Association will give a discussion on a timely subject, and finally the always enjoyed State Society banquet.

Hotel reservations are being handled through the office of the Secretary-Treasurer. You are urged to get your requests for reservations in early.

A cordial welcome from the Orleans Parish Medical Society is extended to all.

Nicholas J. Chetta, M. D., Chairman,
Committee on Publicity.

YOU AND YOUR AMA

"What are we getting for our twenty-five dollars?" is a question frequently asked by doctors in regard to the American Medical Association. In order to answer this question and many others concerning these activities and plans, the Council on Medical Services of the AMA proposes to "take the American Medical Association" to each doctor attending the 1953 meeting of our Society.

On Friday, May 8 a luncheon will be held for all members in attendance at the Annual Meeting and at this time Dr. George F. Lull, Secretary of the AMA and Mr. Thomas A. Hendricks, Secretary of the Council on Medical Services of the AMA, will be present to discuss activities of the national organization. At the same time there will be displayed an exhibit depicting these activities.

All members are urged to attend this luncheon meeting which will be one of the highlights of the 1953 convention.

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SPECIAL SESSION HOUSE OF DELEGATES OF AMERICAN MEDICAL ASSOCIATION

Dr. Val H. Fuchs and Dr. J. Q. Graves, delegates of the Louisiana State Medical Society to the American Medical Association attended a special meeting of the House of Delegates of the AMA held in Washington on March 14. At this meeting at which 179 out of 183 accredited delegates were present, the Reorganization Plan #1 of 1953, prepared by the President of the United States and transmitted to the Senate and the House of Representatives in Congress assembled, March 12, 1953, was discussed and the following report of the Board of Trustees of the AMA, accepted:

"The House of Delegates of the American Medical Association has for nearly 80 years been on record as favoring an independent Department of Health in the federal gov-

ernment. The reason for this stand has been that the House has felt that health and medicine should be given a status commensurate with their dignity and importance in the lives of the American people, and that they should be completely divorced from any political considerations.

"The Board of Trustees, after a careful study of the policy of the American Medical Association with respect to the administration of health activities in the executive branch of the government and after studying the Reorganization Plan for elevation of the Federal Security Agency to cabinet status submitted by President Eisenhower to the Congress, find that Reorganization Plan #1 of 1953 provides for a special assistant to the Secretary for Health and Medical Affairs. This provision is a step in the right direction which should result in centralized coordination under a leader in the medical field of the health activities of the proposed department. Health, therefore, is given a special position. The proposed plan, properly administered, will permit more effective coordination and administration of the health activities of the new Department without interference or control by other branches.

"Previous attempts to raise the Federal Security Agency from an independent agency to the level of an Executive Department have been opposed by the Association because the plan did not meet these aims.

"Inasmuch as federal health benefits and programs are established by the Congress, an administration bent on achieving the nationalization of medicine can not reach that goal except with the support of Congress. Therefore, an organizational plan through which federal health activities are administered, although important, is not nearly so vital an issue as the policies adopted by the Congress of the United States.

"The Board of Trustees recommends that the House of Delegates reaffirm its stand in favor of an independent Department of Health but that it support the Reorganization Plan #1 of 1953 as being a step in the right direction; that the American Medical Association cooperate in making the plan successful and that it watch its development with great care and interest.

"It should be understood, however, that the Association reserves the right to make recommendations for amendment of the then existing law and to continue to press for the establishment of an independent Department of Health, if the present plan does not, after a sufficient length of time for development, result in proper advancement in and protection of health and medical science and in their freedom from political control."

We believe that this plan suggested to change the Federal Security Agency to the Department of Health, Education and Social Security and placing in the overall secretary's office, a special assistant, to the secretary, for all health and medical affairs to whom all matters pertaining to medicine would be referred, and this asssitant to be, by all means, a doctor of medicine from non-governmental sources, and he, too, to represent the secretary in all inter-departmental and international meetings and all congressional hearings on health matters, to be a good plan. He shall also be the contact between the Department and the AMA and other groups such as dentists, hospitals, public health and state and territorial health offices.

This plan, we think, will fairly well put organized medicine in control, and it looks like the best plan we can hope for under present conditions.

———o———

OFFICERS OF COMPONENT SOCIETIES

Following is list of officers of component societies as reported to the secretary-treasurer of the State Society. If there are any additions or changes which should be made notify Dr. C. Grenes Cole immediately.

ACADIA PARISH

President—Dr. John W. Williams, Church Point
Secretary-Treasurer—Dr. Clifford L. Keller, Church Point

ALLEN PARISH

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Secretary—Dr. James William Mayes, Jr., Drawer "G", Kinder

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Secretary-Treasurer—Dr. C. J. Champagne, Donaldsonville

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President—Dr. S. R. Abramson, Marksville
Secretary-Treasurer—Dr. H. A. McConnell, Bunkie

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President—Dr. John D. Frazar, DeRidder
Secretary-Treasurer—Dr. Floyd N. Beckcom, Graybow Hwy., DeRidder

BIENVILLE PARISH

Inactive

BOSSIER PARISH

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Secretary-Treasurer—Dr. John Bell Hall, Benton

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Secretary—Dr. W. Lamar Bain, 208 Phys. & Surg. Bldg. East, Shreveport

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Secretary-Treasurer—Dr. William M. Farmer, 811 Pujo St., Lake Charles

CLAIBORNE PARISH

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President—Dr. Charles J. Aswell, Ville Platte
Secretary-Treasurer—Dr. C. L. Attaway, Ville Platte

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President—Dr. William L. Strahan, Winnsboro
Secretary-Treasurer—Dr. Hollis T. Rogers, Winnsboro

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Secretary-Treasurer—Dr. Harold J. Jacobs, 413 Lee Ave., Lafayette

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Secretary—Dr. Eleanor M. Worsley, Box 148, Second St., Natchitoches

ORLEANS PARISH

President—Dr. Sam Hobson, 1601 Hibernia Bldg., New Orleans
Secretary—Dr. Charles B. Odom, 530 Physicians and Surgeons Bldg., New Orleans

OUACHITA PARISH

President—Dr. D. L. Anderson, 309 Pine St., Monroe
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Inactive

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RAPIDES PARISH

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Secretary-Treasurer—Dr. M. Lee Jarrell, 807 Jackson St., Alexandria

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Inactive

RICHLAND PARISH

Inactive

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Secretary-Treasurer—Dr. Rufus H. Craig, Many

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President—Dr. Fred J. Mayer, Opelousas
Secretary-Treasurer—Dr. C. L. Mengis, Opelousas

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Secretary-Treasurer—Dr. Bernard M. deMahy, 311 S. Main St., St. Martinville

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Secretary-Treasurer—Dr. Hilton J. Brown, Franklin

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President—Dr. T. J. Healy, Covington

Secretary-Treasurer—Dr. M. J. Duplantis, 322 Columbia St., Covington

TANGIPAHOA PARISH

President—Dr. Isadore I. Rosen, Amite

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TERREBONNE PARISH

President—Dr. S. Clark Collins, Houma

Secretary-Treasurer—Dr. Buford J. Autin, 414 Lafayette St., Houma

TRI-PARISH (EAST AND WEST CARROLL, MADISON AND TENSAS)

Inactive

VERMILION PARISH

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Secretary-Treasurer—Dr. Edward J. LeBlanc, Jr., Erath

VERNON PARISH

President—Dr. Edwin H. Byrd, Leesville

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Secretary-Treasurer—Dr. Clifford W. Crain, 400 Louisiana Ave., Bogalusa

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Secretary-Treasurer—Dr. C. M. Baker, Miller Bldg., Minden

SECOND DISTRICT

President—Dr. William K. Gauthier, 310 Codifer Blvd., New Orleans

Secretary-Treasurer—Dr. Frederick A. Wild, Jr., P. O. Box 45, Destrehan

THIRD DISTRICT

President—Dr. Thomas P. Sparks, Jr., Weeks Island

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Secretary—Dr. Levin F. Magruder, 4922 Winnborne Ave., Baton Rouge

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Secretary-Treasurer—Dr. Charles V. Hatchette, 420 Pujo St., Lake Charles

EIGHTH DISTRICT

President—Dr. Albert E. Hensel, Jr., 1312 Jackson St., Alexandria

Secretary-Treasurer—Dr. Ben Fendler, 420 DeSoto St., Alexandria

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LOUISIANA STATE MEDICAL SOCIETY NEWS

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Morehouse	Third Thursday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

SCHOOL HEALTH PROGRAM

Iberville and Tangipahoa Parishes are engaged in a far-reaching school health program set up by the Louisiana State Medical Society. The program graphically portrays what can be done to afford a maximum opportunity for a sound body and sound mind in the youth of the communities. Emphasis is placed on proper diet, on immunization and on correction of defects in teeth, sight, hearing and bodily structure.

Though the approach is through the school, the program stresses the primary responsibility of the parent for the physical well-being of the child.

Every parent in the state might take counsel

from this intense awareness of educators and doctors of the vital necessity of child health care and remedial measures.

If you would be interested in enclosing in your monthly bills a small printed pamphlet, similar to the above (which will be ready for distribution in your May 1st statements), favorably publicizing the medical profession, please complete the following form and return immediately to the Council on Medical Service and Public Relations, Dr. W. Robyn Hardy, Chairman, Room 105, 1430 Tulane Avenue, New Orleans, La. The pamphlet each month carries a different message.

NAME .....

ADDRESS .....

NO. COPIES DESIRED .....

DO YOU WISH THIS SERVICE

EACH MONTH? .....

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OFFICERS ELECTED BY THE CENTRAL ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

The Central Association of Obstetricians and Gynecologists announce the election of the following officers:

President: W. O. Johnson, M. D., Louisville, Kentucky.

President Elect: Harold C. Mack, M. D., Detroit, Michigan.

Vice-President: Arthur B. Hunt, M. D., Rochester, Minnesota.

Secretary-Treasurer: Harold L. Gainey, M. D., Kansas City, Mo.

Assistant Secretary: Woodard D. Beacham, M. D., New Orleans, La.

These officers will serve until the end of the Annual Meeting which will be held at the Shamrock Hotel, Houston, Texas, on November 5, 6, and 7, 1953.

The business office of the Central Association of Obstetricians and Gynecologists is located in Suite 602, 116 So. Michigan Avenue, Chicago 3, Illinois. The office of Dr. Harold L. Gainey, Secretary-Treasurer, is located at 4635 Wyandotte Street, Kansas City, Missouri.

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FUTURE MEETINGS

SEVENTH ANNUAL ROCKY MOUNTAIN CANCER CONFERENCE

The Seventh Annual Rocky Mountain Cancer Conference will be held in Denver on July 8 and 9. As in previous years there will be eight outstanding guest speakers, and on the first evening a banquet and entertainment for both the doctors and their ladies. There is no registration fee for this Conference.

For further information, contact the Colorado State Medical Society, 835 Republic Bldg., Denver 2, Colorado.

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THE AMERICAN COLLEGE OF ALLERGISTS

The annual conclave of The American College of Allergists will be held this year at the Conrad Hilton Hotel in Chicago April 24 to April 29.

The first four days will be devoted to instruction under the tutelage of recognized authorities and the last three to a discussion and reporting of recent advances in the field of allergy by the investigators themselves. For detailed information write The American College of Allergists, La Salle Medical Building, Minneapolis 2, Minnesota.

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AMERICAN GOITER ASSOCIATION

The 1953 meeting of the American Goiter Association will be held in the Drake Hotel, Chicago, Ill., May 7, 8 and 9. The program for the three day meeting will consist of papers and discussions dealing with goiter and other diseases of the thyroid gland.

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POST GRADUATE SYMPOSIUM

A Post Graduate Symposium on the Basic Sciences Related to Anesthesiology will be held June 8-12, 1953 in Pittsburgh. Registration fee is $25.00 and the course will be limited to 50 participants. For registration and full particulars, write to Chairman of the Committee on Graduate Medical Education, University of Pittsburgh School of Medicine, 3941 O'Hara Street, Pittsburgh 13, Pa.

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SMALL PLANT HEALTH AND MEDICAL PROGRAMS

Useful information for employers who wish to establish in-plant health programs and for labor, professional, and other groups that have a special interest in employee health is contained in P. H. S. Publication No. 215, entitled "Small Plant Health and Medical Programs," issued recently by the Public Health Service of the Federal Security Agency.

The report is concerned primarily with the organization and methods of providing health services in industry by physicians and nurses. It does not cover the technical phases of industrial hygiene engineering and chemistry or the clinical aspects of occupational medicine.

In addition to a general discussion of industrial health and medical services and the type and extent of programs now existing in small plants, the report includes detailed descriptions of several programs. It stresses particularly various types of cooperative programs that have made it possible for small plants to provide health services to their employees.

DISTRIBUTION, DOCTORS

President Louis H. Bauer told the House of Delegates that even though medical schools today are turning out doctors at a rate faster than the population is increasing, something must be done to get more doctors in so-called isolated areas.

"First, we must encourage communities to establish facilities for a doctor to practice good medicine," he said, "and, second, we must recommend that our specialty boards revise their requirements.

"The present system results in more men going into the specialties of medicine than is desirable, as they realize that if they are ever to become specialists, they must begin their training immediately on graduation. The present system practically prevents a general practitioner from becoming a specialist. The best specialist is the one who has a background of general practice."

Dr. Bauer suggested that it would be desirable to provide for greater recognition of general practice as one of the requirements for at least the majority of special fields.

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BREAKFAST IS THE KEY MEAL IN REDUCING DIETS

The news in reducing diets is right in the first meal of the day. Scientific research gives new importance to breakfast as the key to any successful reducing plan. This is presented in a booklet edited by Dr. Sidney A. Portis of Chicago, entitled, "Breakfast in the Modern Reducing Diet."

Previous scientific studies show that you'll feel better, you'll work better, and you'll be quicker on the draw when you eat a breakfast that gives you 1/4 to 1/3 of the day's food—and calories—at breakfast. You can enjoy these benefits of good breakfast habits even on a reducing diet. If you skip breakfast, or any meal, you're more apt to resort to between-meal snacks which add calories, or you're apt to overeat at the other two meals of the day.

The food you eat at breakfast is used efficiently; you're not as apt to store it as fat. And starting the day with breakfast is excellent insurance against missing out on some of the important food values your body needs.

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LIFE EXPECTANCY

Americans can expect to add four to five years to their average length of life during the next twenty or twenty-five years, according to Dr. Louis I. Dublin, eminent statistician.

Addressing the Eastern Life Claim Conference, a group of life insurance claim experts, at a luncheon meeting at the Hotel Statler in New York, Dr. Dublin said that an average length of life of seventy-three years was very likely within this generation. Females would enjoy about three years more than this national average.

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PULMONARY EMBOLISM NOT NECESSARILY PULMONARY INFARCTION

An autopsy report of massive thrombotic extension of old emboli into the pulmonary arteries with only minimal and very recent pulmonary infarction was published in the current (March) *American Journal of Roentgenology, Radium Therapy and Nuclear Medicine.*

The report was made by Merlin E. Woesner, M. D.; Geoffrey A. Gardiner, M. D., and Walter L. Stilson of the Department of Radiology of the White Memorial Hospital and the School of Medicine, College of Medical Evangelists, Los Angeles, California.

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ILLINOIS DOCTORS CONTRIBUTE $59,570 TO MEDICAL EDUCATION

A $59,570 contribution to help alleviate the financial difficulties of the nation's medical schools has been received by the American Medical Education Foundation, it was announced by Hiram W. Jones, Chicago, executive secretary of the foundation.

The donation, made by 2,966 Illinois physicians through the Illinois State Medical Society, included a $400 contribution by the 20 members of the Effingham County Medical Society and an additional $250 from the society itself. A tragic fire at St. Anthony's Hospital in Effingham, early in 1949, killed several persons.

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1953 MEETING OF AMA

Following is notice received from Eastern Air Lines which should be of interest to all Louisiana doctors planning to attend the meeting of the AMA to be held in New York June 1-5.

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WOMAN'S AUXILIARY TO THE LOUISIANA STATE MEDICAL SOCIETY

ANNUAL MEETING

New Orleans—May 7-9, 1953

Make your plans now to attend the annual meeting of the Woman's Auxiliary to the Louisiana State Medical Society, in New Orleans, May 7-9. An interesting program of entertainment is being planned by the New Orleans ladies, and the business meetings will be most helpful. Your president, Mrs. T. E. Strain, has made a wonderful leader. Let us all go and show our appreciation of her, and greet our incoming president, Mrs. Edwin Socola.

Mrs. Leon Gray,
Chairman Press and Publicity.

———o———

SHREVEPORT MEDICAL AUXILIARY

The Woman's Auxiliary to the Shreveport Medical Society held its monthly meeting March 11 at the Junior League House on Azalea Drive with Mrs. T. A. Glass as chairman. Handsome arrangements of Dutch iris and purple stock were placed at vantage points throughout the meeting rooms.

Mrs. G. A. Creel, first vice president, presided at the business meeting. Plans were announced for a Doctors' Day Dinner to be held at the Shreveport Country Club on March 19. A most interesting dramatic program, "A Half Hour with the Brownings," was presented by John Wray and Margaret Young.

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RAPIDES PARISH

The Woman's Auxiliary to the Rapides Parish Medical Society entertained in January with a luncheon in the Continental Room of the Hotel Bentley. The luncheon honored wives of members of the medical society convening there for the sixth annual Founder's Day program and the 50th anniversary observance of the society. Mrs. Ralph Lambert was chairman of the luncheon with Mrs. W. M. McBride, co-chairman.

Mrs. James W. Pattee, Jr. of Louisville, Kentucky, gave a splendid review of *The Sojourner* by Marjorie Kinnan Rawlings.

———o———

OUACHITA PARISH

The Woman's Auxiliary to the Ouachita Parish Medical Society held its regular monthly meeting, February 12, at 12:30 p. m., at the Bayou DeSiard Country Club. The hostesses for this luncheon meeting were: Mrs. Roy Kelly, chairman, Mrs. Perot, Mrs. Webster, Mrs. Lobrano, Mrs. Wilds, and Mrs. W. L. Spencer.

The tables were beautifully decorated with red camellias and red candles carrying out a Valentine motif. The speakers' table was centered with a large arrangement of red camellias, in the shape of a heart, flanked on either side with red candles. The molded tomato aspic salad was also in the shape of a heart.

Mrs. James Schonlau, president, called the meeting to order and heard the following reports:

Secretary, Mrs. D. L. Anderson, read a letter from a soldier in Korea to whom the Auxiliary sent a Christmas package. Mrs. W. C. Cookston, Jr., Treasurer, gave a financial report. Mrs. C. B. Flinn, chairman of the nominating committee, gave the following report on officers: President-Elect, Mrs. Cyril Yancey; 1st Vice-President, Mrs. D. L. Anderson; 2nd Vice-President, Mrs. Hollis Rogers; Recording Secretary, Mrs. J. D. Kelly; Corresponding Secretary, Mrs. Burchall Liles; Reporter, Mrs. Harrell Webster; Parliamentarian, Mrs. Guy D. Williams. Mrs. Irving Wolff gave a report as corresponding secretary. Mrs. Cyril Yancey read a letter from the Red Cross in regard to their annual drive. The Auxiliary voted to give a larger donation to the Red Cross this year.

Mrs. Ralph Talbot, who is Nurse Recruitment chairman, stated that six or eight girls from Neville High School have expressed a desire to study nursing. The Auxiliary voted to give a nursing scholarship.

The president announced that Mrs. C. P. Gray, Jr., had been appointed a member of the State Nominating Committee.

There was a report from Mrs. N. Klum, who is chairman of "Doctor's Day," which is March 30th.

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JEFF DAVIS MEDICAL AUXILIARY HEARS STATE HEAD

The Jeff Davis Medical Auxiliary met in February at the home of Mrs. R. S. Kramer in Jennings.

Mrs. L. E. Shirley called the meeting to order and immediately turned the program over to Mrs. T. E. Strain, state president of the Woman's Auxiliary and special guest for this meeting. She discussed various projects that the Medical Auxiliary could sponsor. Mrs. Strain suggested that sale and distributon of "Today's Health" magazine in the homes would promote better public relations and also help people to understand more about medical problems.

Another project that Mrs. Strain laid special emphasis upon was that of nurse recruitment. She suggested forming a future nurses club which would later help to find the solution to the critical nursing shortage. Members of this club would be composed of anyone of high school age who would be interested in nursing as a career.

After the business session, a social hour was enjoyed.

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CALCASIEU PARISH

Mrs. W. A. K. Seale was hostess to members of the Calcasieu Parish Medical Society auxiliary at a meeting held in her home in Sulphur in January.

Plans were made for members to participate in a first aid class, a spokesman said.

Mrs. Walter Moss, president, gave the mid-year report at the meeting.

Mrs. L. L. DiGiglia was hostess to the Woman's auxiliary of the Calcasieu Medical Society at the February meeting.

A feature at the meeting was two piano selections played by Mrs. J. A. DiGiglia, a guest.

Mrs. Walter Moss reported on the mid-year board meeting which she recently attended in Alexandria.

———o———

ESSAY CONTEST OPENED IN ORLEANS PARISH

"Why the Private Practice of Medicine Furnishes this Country with the Finest Medical Care" is the subject for the seventh annual National Essay Contest for High School students. The contest is sponsored by the Association of American Physicians and Surgeons with the cooperation of the parish and state medical societies. Dr. Edwin L. Zander is National Chairman for 1953. Woman's Auxiliary to Orleans Parish Medical Society is sponsoring the contest in the city of New Orleans. Mrs. Lloyd Kuhn has been appointed by the auxiliary to be essay contest chairman. At a recent organizational meeting Mrs. Kuhn announced that twenty-five schools will participate in the contest, and that each school will be sponsored by a member of the Medical Auxiliary.

Prizes will be awarded on a national and local basis. Miss Pat Baxter, winning entry from Orleans Parish, was National winner in 1951, and Bill Carr of Gulfport, Mississippi, was national winner in 1952. It was in his prize winning paper that the following appeared: "It is only in an atmosphere of freedom that the lamp of science and learning can be kept alight. In all the history of the race, progress has never flowed in a subject people. It is only free men who dare to think, and it is only through free thought that the soul of a people can be kept alive." He also quotes Winston Churchill in saying "We must beware of trying to build a society in which nobody counts for anything except a politician, or an official, a society where enterprise gains no reward and thrift no privileges."

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BOOK REVIEWS

Child Psychiatric Techniques; by Lauretta Bender, B.S., M.A., M.D., Springfield, Illinois, Charles C. Thomas, 1952. 360 pp. illus. Price $8.50.

This volume unifies the various papers published during the past fifteen years by the author and her late husband, Dr. Paul Schilder, including several written in collaboration with their associates at Bellevue Hospital. Dr. Schilder's memory will forever linger in our specialty and in the hearts of those who knew him or heard him lecture. His contributions, as well as those of Dr. Bender, are basic for those who wish to work with children.

The chief emphasis in this book is on the use of art as a therapeutic technique, and includes four chapters from an unpublished book, "Art and the Problem Child". Most of the papers are technical and liberally utilize case material with excellent illustrations of the creative work of mentally deficient, schizophrenic, neurotic, and encephalitic children.

Others chapters include those on clay modeling as a projective technique, puppet shows, and the creative dance. Dr. Bender's discussion of material from her visual motor Gestalt test adequately explains the genesis and maturation in Gestalten, as well as deviations found in children.

The Bellevue child psychiatry unit was organized similarly to the unit at the New York State Psychiatric Institute, except that Dr. Bender has emphasized the use of ward activities both for the observation of the child as a social being and for group psychotherapy. Her chapter on the group activities appears to be too brief and sketchy; however, it does serve to enumerate the methods employed.

This book does not deal with the analytic techniques employing play therapy, but the author does consider it in her chapter surveying contributions from various fields. In the same section, Dr. Bender appears to agree with Orton's theory (1925) on language disabilities and omits the outstanding work of Hallgren (Karolinska Institute in Stockholm), whose monograph on Specific Dyslexia (1950) found no grounds for assuming a relationship between lefteyedness or mixed eye and hand dominance and specific dyslexia.

One of Dr. Bender's particular talents lies in her ability to show clearly the interrelatedness of observations which have been worked out over fifteen years, and the formulations of the contributors. In many instances, the children were studied again in young adulthood and a longitudinal picture given.

The author has, through her many valuable contributions, established for herself an important place in child psychiatry. This book is recommended to all interested in this field.

IRWIN M. MARCUS, M. D.

———

The Effect of Hormones Upon the Accessory Sex Organs; by N. J. Heckel, A.B., M.D. Springfield, Ill. Chas. C. Thomas Co. 1951. Illus. pp. 73. Price $2,25.

This is a concise summary of the effects of sex and interrelated hormones on the male organs of reproduction. A review of the embryology, anat-

omy, and histology of these organs is included. A detailed classification of male gonadal dysfunctions is outlined but only the common disorders of the male reproductive organs are considered in some detail. Of interest are the author's comments on the present status of hormonal therapy in these disorders.

In undescended testes, it is stated that "it seems advisable that the testes be placed in the scrotum as soon after birth as possible".

Estrogens in small doses are believed to benefit premature ejaculations and hematospermia.

This book affords a concise review for all interested in hormonal effects on male reproductive organs.

JOHN G. MENVILLE, M. D.

Selected Studies on Arteriosclerosis; by Rudolph Altschul. Springfield, Ill., Charles C. Thomas, 1950. pp. 182, illus. Price $5.50.

This small book is a collection of various studies on arteriosclerosis, human and experimental. The chapters are only loosely connected, and as the author notes, make no pretense of being either a review or a final or a complete report on arteriosclerosis.

The author is an anatomist, and the emphasis is placed on the meaning of the histological changes observed. He reports detailed observation of the endothelial changes, from which he concludes that initial dedifferentiation and later metaplasia produce many of the cellular abnormalities observed. However, in treating "cholesterolosis" as a systemic disease, he presents observation of changes in many body tissues.

Most of the methods used for producing experimental arteriosclerosis are standard, with some minor variations by the author.

The illustrations are well chosen and of good quality.

PHILIP M. TILLER, JR., M. D.

Thyroid Function and its Possible Role in Vascular Degeneration; by William B. Kountz, M. D. Springfield, Ill., Charles C. Thomas, 1951. pp. 62. Price $2.25.

This is a short monograph in the American Lecture Series which attempts to correlate evidence on hypothroidism and arteriosclerosis. The author reviews the pertinent literature and presents clinical observations on the relation of arteriosclerosis to disturbed metabolism. He interprets these findings as indicating that absence of thyroid substance from the organism plays an important role in the degenerative changes associated with arteriosclerosis.

The value of this monograph is questionable. Little definitive work has been done on the problem and the accumulated experimental and clinical evidence is sometimes suggestive but more often extremely tenuous. While it may be assumed that hypothyroidism may be associated with metabolic changes and degeneration of blood vessel walls, primary causal relationships cannot be established at the present time. The material in this monograph would have been much more valuable if presented as part of a much broader discussion of nutritional factors influencing hypertension.

H. S. MAYERSON, PH. D.

Textbook of Orthopedics; by M. Beckett Howorth, M. D. Philadelphia, W. B. Saunders Company, 1952. pp. 1110, illus. Price $16.00.

This is the first comprehensive text to be published by an American orthopedic surgeon in almost twenty years. It proves to be a book worth waiting for. It has been written by Howorth in association with five other outstanding contributors, and the material is presented in a most comprehensive manner. The illustrations are of the highest quality and have been reproduced excellently. Certain chapters are more appealing than others, and although it is extremely difficult to single out any one section, those that deal with the examination and diagnosis and plans of treatment are exceptionally well written and comprehensive as is the section written by William Littler on the hand and wrist. The fourth section on neurology in relation to orthopedic practice written by Fritz Kramer is unique in its approach to the neurological aspects of orthopedic surgery.

There have been few textbooks on any subject which can approach Howorth's *Textbook of Orthopedics* for completeness, ease of comprehension and quality of illustrations. It should and probably will become the standard text for undergraduate and graduate students in orthopedic surgery and will furnish excellent reference for the practicing surgeon, general practitioner, and orthopedist.

JACK WICKSTROM, M. D.

PUBLICATIONS RECEIVED

The C. V. Mosby Co., St. Louis: Diseases of the Heart and Arteries, by George R. Herrmann, M. D. (4th Edit.).

Philosophical Library, New York: A Doctor's Soliloquy, by Joseph Hayyim Krimsky.

Charles C Thomas, Publisher, Springfield, Ill.: Familial Nonreaginic Food-Allergy, by Arthur F. Coca, M. D. (3rd Edit.); Practical Clinical Chemistry, a Guide for Technicians, by Alma Hiller, Ph.D.; Treatment of Respiratory Emergencies Including Bulbar Poliomyelitis, by Thomas C. Galloway, M. D.; Syphilitic Optic Atrophy, by Walter L. Bruetsch, M. D.; Tarsy's Pain Syndromes and Their Treatment, by James M. Tarsy, M. D.; Mid-Century Psychiatry, edited by Roy R. Grinker, M. D. with 13 contributors; On Burns, compiled and edited by Nathan A. Womack, M. D.; Hypnosis in Modern Medicine, by Jerome M. Schneck, M. D.

The Williams & Wilkins Co., Baltimore: Atlas of Medical Mycology, by Emma Sadler Moss, M. D., and Albert Louis McQuown, M. D.

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1. Hechter, O.; Dopkeen, S. K., and Yudell, M. H.: The Clinical Use of Hyaluronidase in Hypodermoclysis, J. Pediat. 30:645 (June) 1947.
2. Schwartzman, J.; Henderson, A. T., and King, W. E.: Hyaluronidase in Fluid Administration: A Preliminary Report, J. Pediat. 33:267 (Sept.) 1948.

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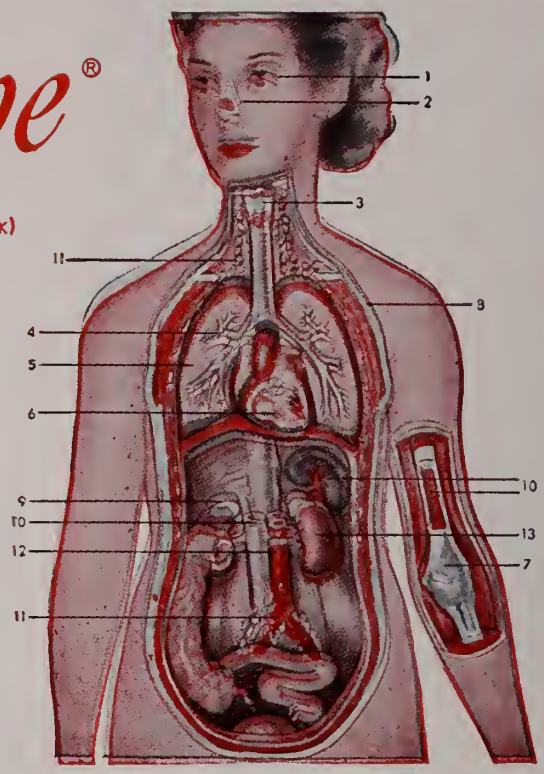

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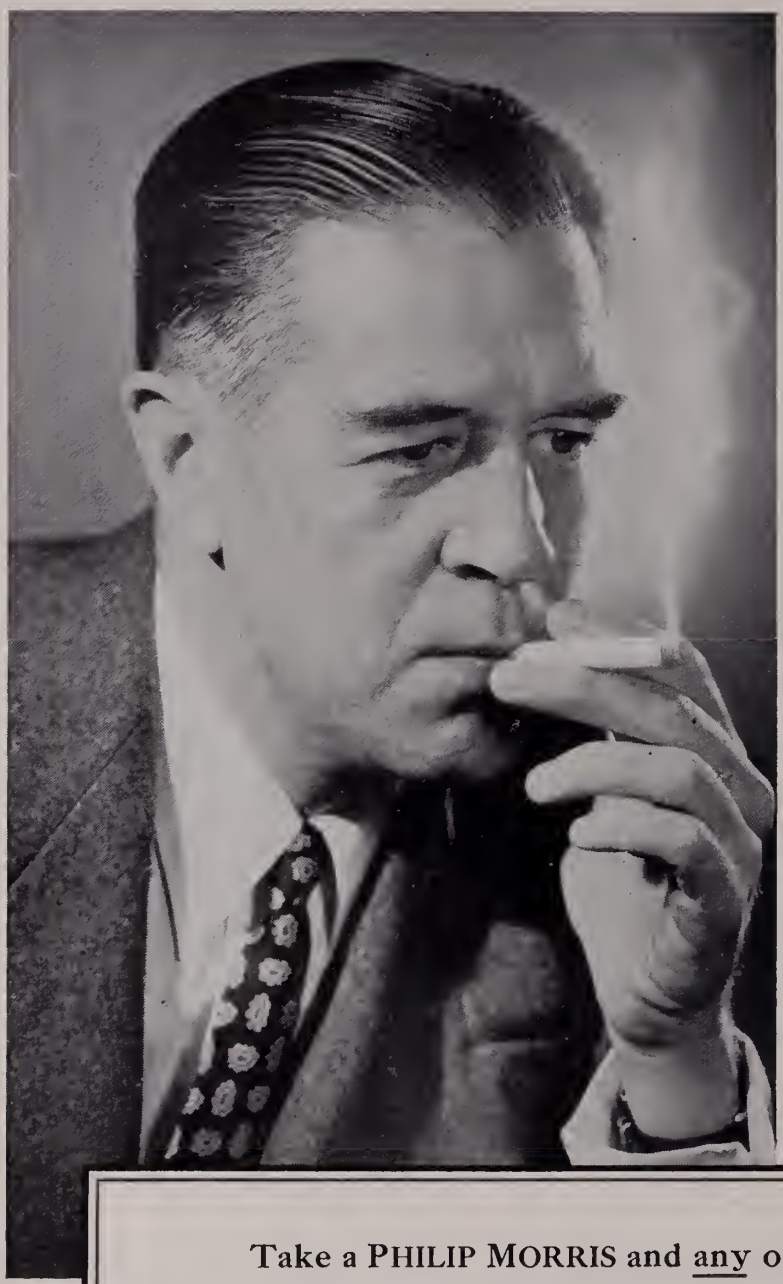

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From where I sit, Slim's smart to be wary of people who consider themselves to be all-around "experts." Some folks will "expert" on anything—from the way a man should practice his profession to whether he ought to drink beer or buttermilk. Personally I don't want to "classify" myself as knowing all the right answers.

Joe Marsh

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1. Frost, L. H., and Jackson, R. L.: J. Pediat. 39: 585-592, 1951.

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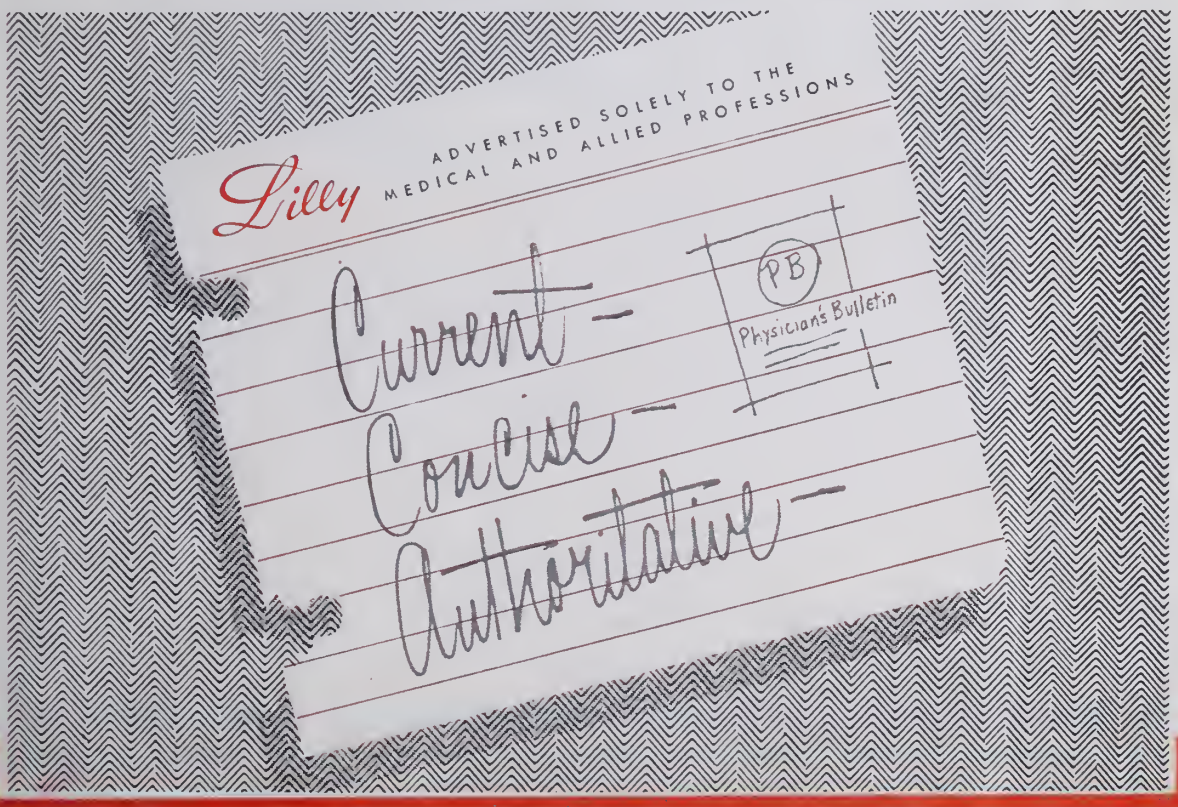

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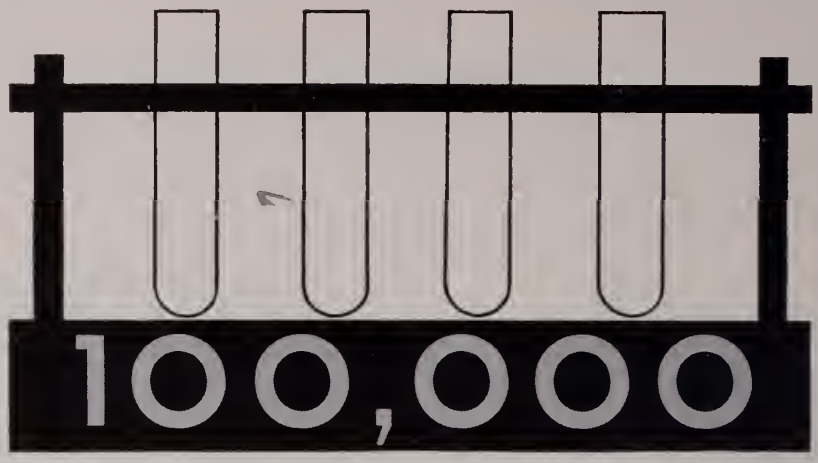

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1. Blotner, H., and Marble, A.: New England J. Med. *245*:567 (Oct. 11) 1951.
2. Getting, V. A., and others: Diabetes *1*:194, 1952.
3. Wilkerson, H. L. C., and Krall, L. P.: J.A.M.A. *135*:209 (Sept. 27) 1947.

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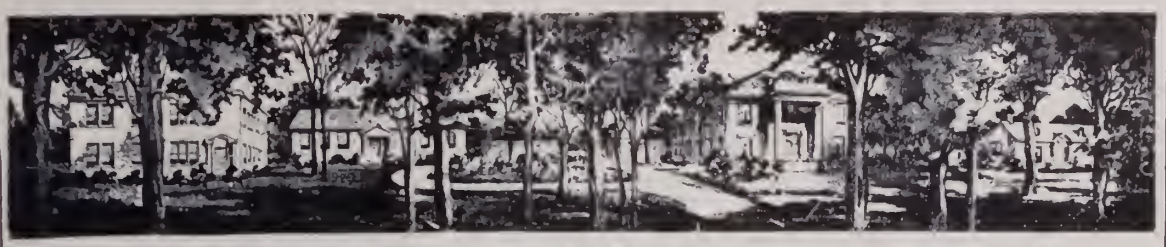

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1. Silbert, N. E.: New England J. Med. 242:931, 1950.
2. Eisenstadt, W. S.: Journal Lancet 70:26, 1950.

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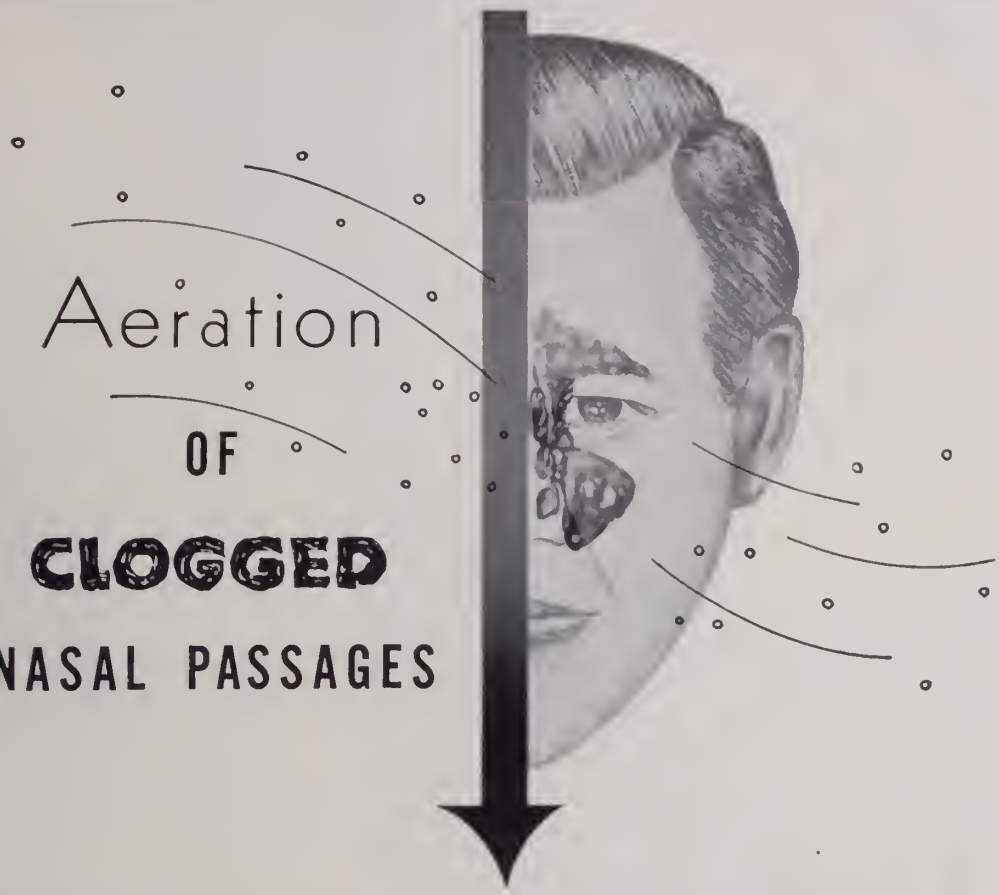

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1. Von Alyea, O. E., and Donnelly, Allen: *Arch. Otolaryng.*, 49:234, Feb., 1949.

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1. McGuire et al. (1952), J. Antibiotics & Chemo., 2:281, June.
2. Heilman et al. (1952), Proc. Staff Meet. Mayo Clin., 27:385, July 16.
3. Haight and Finland (1952), New Eng. J. Med., 247:227, Aug. 14.

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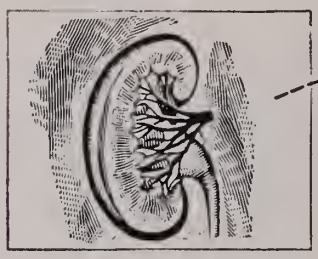

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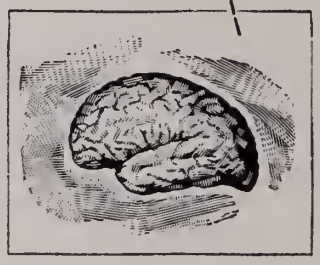

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RECENT ADVANCES IN TREATMENT IN THE FIELD OF GENERAL SURGERY*

WILLIAM C. QUINN, M. D.

NEW ORLEANS

A report on such a broad field must necessarily be limited to brief mention and discussion of what I consider to be the most important aspects of recent advances in surgery. I feel sure many will not agree with all the remarks I will make and, as a matter of fact, I do not agree with all of them myself. They merely represent what I consider to be the trend at the present time. Thus, instead of "Recent Advances In Treatment In The Field of General Surgery," I might more correctly call this discussion "Recent Trends In Treatment In General Surgery," as only time will tell whether they are actually advances or not.

It is in the realm of cardiovascular surgery that the most dramatic advances are being made; however, this branch of surgery has become a specialty in itself and I will, therefore, limit my comments to the several aspects which are particularly interesting to the general surgeon.

CARDIOVASCULAR SURGERY

(A) *Cardiac resuscitation*: It is the current feeling that nearly every patient with a normal heart and normal lungs can be successfully resuscitated if adequate oxygen supply to the brain can be restored within three to five minutes after onset of the cardiac asystole. Thus, the successful handling of this emergency, from the practical standpoint, is limited to those cases which occur in the operating room or within its immediate vicinity. Here, oxygen, intratracheal tubes, positive pressure mechanism, and a defibrillator should and must be available. In the event of such an emergency, the chest should be opened without thought to the usual proper sterile technique and cardiac massage should be begun immediately. Bleeding will be no problem. In approximately 90 per cent of the cases the heart will be found in arrest, and in approximately the other 10 per cent of cases the heart will be fibrillating. If the heart is found to be in arrest, cardiac massage supplemented, if necessary, by small amounts of adrenalin directly into one of the ventricles, will usually suffice. A defibrillator may be necessary if the heart is found to be in, or should develop, fibrillation. Inexpensive, easily constructed defibrillators have been found to be quite adequate.

(B) *Penetrating wounds of the heart*: It is to be recalled that until recently, stab wounds of the heart were considered indications for immediate surgery in order that the laceration of the myocardium might be sutured. On the Tulane Service of the Charity Hospital in New Orleans, as previously outlined by Blalock of Johns Hopkins, we have found that the conservative management of these wounds, with aspiration of the pericardium when signs and symptoms of cardiac tamponade develop, has reduced the necessity of operative treatment of these heart wounds to almost zero. During the past two and one half years, injuries of the heart have produced signs and symptoms of cardiac tamponade in 8 cases. In only 1 was thoracotomy performed and the myocardium sutured. As a matter of fact, in

*Presented at meeting of the Orleans Parish Medical Society, October 13, 1952.

this 1 case the thoracotomy was indicated for another reason and the suturing of the myocardium was performed incidentally. Chamberlain[1] of New York, in conjunction with Merck and Company, has raised additional questions in the management of penetrating wounds of the heart. In dogs, at least, they have demonstrated that cardiac tamponade does not result in death of the animal; rather, the tamponade plays an important part in causing the bleeding to cease. Interestingly enough, animals survived as many as eight to twelve separate stabbings of the heart without death from cardiac tamponade, unless one of the major nutrient vessels or its larger branches was severed by the injury. In such cases, death invariably results within a few minutes no matter what is done, because of the cardiac ischemia and necrosis of the muscle distal to the severed vessel as seen in infarction.

(C) *Management of acute arterial injuries*: A great deal of experimental and clinical work is being done on the use of fresh and preserved homologous blood vessel grafts. Significant advances have been made in the storage and preservation of these grafts. In spite of this, it should be remembered that autografts of any tissue are still superior to homografts. Gross[2] and Lord[3, 4] have demonstrated that a vein graft from the same individual will give adequate results in bridging an arterial defect, such as might be created by an acute arterial injury, provided the vein graft is approximately the same diameter as that of the artery to which it is to be anastomosed and is of sufficient length to be sutured without tension. The vein graft must be placed so that any contained valve will not interfere with the blood flow. From a clinical standpoint, when dealing with acute arterial injuries of the extremities involving the larger vessels, mere ligation, as frequently practiced, usually results in gangrene or incapacity due to ischemia. Here, the use of the concomitant vein if uninjured, or the superficial femoral vein, to bridge the arterial defect, will give satisfactory results.

PULMONARY DISEASE

I have only a few pertinent remarks concerning pulmonary disease.

(A) *Re-expansion of the lung*: In the management of acute thoracic injuries, resulting in hemothorax, pneumothorax and combinations thereof, employment of measures to assure early re-expansion of the lung is of great importance. In these injuries the prompt use of closed drainage of the pleural cavity, with negative pressure, is now the generally accepted method of treatment. Streptokinase and streptodornase with their liquefying properties have likewise played a part in early re-expansion of the lung in these injuries as well as in empyema.

(B) *Carcinoma of the lung*: There seems to be no doubt that the incidence of carcinoma of the lung is definitely increasing. It seems evident that further improvements in the rather discouraging results will be dependent upon earlier diagnosis. Elades,[5] in his series of cases with symptomatic carcinoma of the lung, found that resections were possible in only 23 per cent. On the other hand, Bisgard[6] points out that in Overholt's asymptomatic cases, discovered on routine chest films, nearly 100 per cent were resectable and 75 per cent of these demonstrated no evidence of lymph node spread. This is strong evidence in favor of including routine x-rays of the chest in the periodic "check-up" of patients by their family physicians—perhaps they are as important as the routine urine and blood studies.

CARCINOMA OF THE BREAST

Although the Halsted operation for carcinoma of the breast is widely used and accepted, Urban[7, 8] at the Memorial Hospital in New York City is at present advocating the additional resection of the internal mammary lymph node chain. He has found that, in lesions involving the medial half of the breast or the retro-areolar area, metastases to the internal mammary lymph nodes have occurred in 60 per cent of his series. He and his associates have performed radical mastectomy with resection of the internal mammary lymph nodes in continuity in

52 cases with a postoperative death. Follow up period is too short at present to evaluate his results.

Firor[9] at Johns Hopkins has been able to demonstrate carcinoma cells in the washings from the chest wound after radical mastectomy in slightly over 40 per cent of the cases done. Granted that relatively few of these cells will remain viable and result in implants, still their presence is disturbing and may explain some of the incidence of local recurrence. Presumably these cells are "squeezed out" of the transected lymphatics. Avoidance of excessive pressure, and avoidance of manipulation of the breast, with thorough irrigation of the wound at the completion of the operative procedure, would seem to be indicated.

GASTROINTESTINAL DISEASES

(A) Esophagus

(a) *Esophagitis*: In any form of operation on the cardiac end of the esophagus, prevention of reflux of the gastrointestinal juices, such as occurs when the cardiac sphincter mechanism is destroyed, is absolutely essential in preventing the frequent disabling symptoms from esophagitis. This is particularly important in any operative procedure for cardiospasm or esophageal hernia. On the other hand, sacrifice of the sphincter at the cardiac end of the esophagus may be necessary in cases of carcinoma.

In total gastrectomy, the use of a loop of jejunum to anastomose with the esophagus and an enteroenterostomy below will not adequately prevent the reflux of intestinal juices. The use of the Roux-Y technique with an isoperistaltic segment of jejunum, 12 to 14 inches in length, has proved efficacious in controlling the regurgitation but does not afford a very satisfactory food pouch.

On the experimental side, Javid[10] of Chicago has successfully bridged esophageal defects in dogs with fresh or preserved homologous aortic grafts. These grafts have served as adequate passageways for food in the dogs, and complete epithelization of the graft with esophageal mucosa has been found to take place within six weeks' time.

(b) *Esophageal varices*: Recently, ligation of the hepatic and splenic arteries has been performed to control massive bleeding from esophageal varices. Although it has been adequately demonstrated that patients with extensive liver damage can usually withstand hepatic artery ligation, this procedure has not been received with too great enthusiasm. It has not been effective in preventing or controlling ascites associated with cirrhosis of the liver. Whereas, it may be indicated as an emergency procedure in uncontrolled bleeding from esophageal varices, such bleeding can usually be controlled by means of tamponade with a rubber balloon. To prevent subsequent bleeding as a result of the portal hypertension, splenectomy, splenorenal shunt, or porta caval shunt, depending upon the site of the obtstruction, remain the procedures of choice.

(B) Stomach and duodenum.

(a) *Carcinoma*: In carcinoma of the stomach there seem to be relatively few who advocate total gastrectomy in cases in which the carcinoma may be adequately resected leaving a cuff of the upper portion of the stomach in place as a food pouch. Perhaps total gastrectomy is indicated in cases of linitis plastica, but excluding this group, total gastrectomy has not offered sufficient increased survival rates to compensate for its increased mortality and morbidity.

(b) *Duodenal ulcer*: High subtotal gastric resection (75 to 80 per cent) with removal of the ulcer, when possible, remains the operative procedure of choice when surgery for duodenal ulcer is indicated because of bleeding, obstruction, or chronicity; however, vagotomy with gastroenterostomy is a satisfactory substitute when the performance of a gastric resection is technically too hazardous. Such may occur in the face of marked inflammatory reaction of the ulcer, particularly when the reaction involves the common bile duct. Subtotal gastric resection for an acute perforation of a peptic ulcer may be performed in a few selected cases, but has not been accepted as a general procedure.

(C) Pancreas.

(a) *Acute pancreatitis*: When the diag-

nosis of acute pancreatitis can be established, conservative treatment is generally advised. Surgery is usually reserved for the complications of the disease, such as suppuration, massive hemorrhage, cyst formation. However, jaundice is usually considered an indication for surgical decompression of the biliary tree.

(b) *Recurrent pancreatitis*: Although many and varied operative procedures have been performed for this distressing condition, the operative procedure as advocated by Mulholland is perhaps the most physiological and usually gives satisfactory results. The sphincter of Oddi is divided and any biliary pathology corrected. If this procedure fails to relieve the symptoms, bilateral splanchicectomy and vagotomy may control the symptoms.

(D) Colon.

(a) *Ulcerative colitis*: Acute fulminating ulcerative colitis remains a grave problem to internist and surgeon alike. Aproximately 50 per cent of such cases will respond to medical therapy, including antibiotics, banthine, ACTH, etc. The other 50 per cent may well be presented to the surgeon. Because of the serious condition of these patients there has been a tendency to perform a conservative operative procedure, namely, ileostomy. Unfortunately, the end results have been disappointing and the mortality extremely high. Ripstein[11] of New York has performed, in one stage, permanent ileostomy and colectomy with exteriorization of the sigmoid segment. In 42 patients there were 2 postoperative deaths, a mortality of 4.8 per cent. He feels that this procedure, although far more extensive, offers the patient a better chance of survival than does ileostomy alone. It is thus possible to remove the source of blood and protein loss, to eliminate the focus of infection and toxic absorption, and to forestall the danger of perforation.

(b) *Carcinoma of the left colon and rectum*: In the past, wedge resections of carcinoma of the descending colon and sigmoid colon have been performed conserving the main trunk of the inferior mesenteric artery. The same may be said of the Miles abdominoperineal resection for carcinoma of the rectum. It is now generally realized that in such resections, ligation of the inferior mesenteric artery should be performed at its junction with the aorta. This affords a higher and more complete lymph node removal and should therefore raise the survival rate without significantly increasing the mortality.

In the foregoing discussion I have attempted to point out a few of the so-called recent advances, or rather, recent trends in the field of surgery. Only time and subsequent experience will allot to them their proper place in the practice of medicine.

REFERENCES

1. Chamberlain, J. M.: The Management of Chest Trauma, Clinical Congress, American College of Surgeons, New York City, Sept. 1952.

2. Nabatoff, R. A., Touroff, Arthur S. W., and Gross, M.: Long-term Studies of Fate and Function of Maximal-length Vena Cava Autografts to Bridge Experimental Aortic Defects in Dogs, Clinical Congress, American College of Surgeons, New York City, Sept. 1952.

3. Lord, J. W., Jr.: Traumatic lesions of the arteries, S. Clin. N. America: 377-386, April, 1950.

4. Lord, J. W., Jr.: Management of Acute Arterial Injuries, Demonstration of Vascular Technic in the Laboratory, Clinical Congress, American College of Surgeons, New York City, Sept. 1952.

5. Blades, B. B.: Cancer of the Lung, Clinical Congress, American College of Surgeons, New York City, Sept. 1952.

6. Bisgard, J. D.: Silent cancers of the lung and tumors of the chest wall, Surg., Gyn., & Obst. 94:505, April, 1952.

7. Urban, J. A. Radical mastectomy in continuity with en bloc resection of the internal mammary lymph node chain, Cancer 5:992, 1952.

8. Urban, J. A.: Radical Mastectomy in Continuity with En Bloc Resection of the Internal Mammary Lymph Node Chain, Clinical Congress, American College of Surgeons, New York City, Sept. 1952.

9. Firor, Warfield M.: The Halsted Operation for Carcinoma of the Breast, Clinical Congress, American College of Surgeons, New York City, Sept. 1952.

10. Javid, H.: Bridging of Esophageal Defects with Fresh and Preserved Aorta Grafts, Clinical Congress, American College of Surgeons, New York City, Sept. 1952.

11. Ripstein, C. B.: Primary Resection of the Colon in Fulminating Ulcerative Colitis, Clinical Congress, American College of Surgeons, New York City, Sept. 1952.

THERAPEUTIC ADVANCES IN GASTROENTEROLOGY

1. THE ANTICHOLINERGIC DRUGS; MOTILITY STUDIES EVALUATING PRANTAL

GORDON McHARDY, M. D.
JOHN E. BECHTOLD, M. D.
New Orleans

The general advance in medical gastroenterology has brought eminence to this subspecialty of internal medicine. More accurate etiologic concepts and diagnostic acuity attained through endoscopic, radiologic, and cytologic perfection have been a stimulus to therapeutic achievement. This impetus coupled with the great medical discoveries of recent years has produced an overwhelming bibliography that renders complete review impractical. Restriction though undesirable is necessary; we have, therefore, selected the three most prominent fields of therapeutic endeavor which in interest, research, and accomplishment will survive this period. Our survey is dedicated to an analysis of the anticholinergics, the antibiotics, and the two allied hormones, corticotropin and cortisone. Without attempting complete itemization we wish to draw attention to several products of interest which may soon be commercially available.

Recognizing our lack of medical control of spastic esophageal disease we entertain the hope that cyclaine and some of the anesthetic-like agents topically applicable to pylorospasm may prove efficient.

Antacids are always in vogue: perhaps cidanta containing an unusual quantity of aluminum hydroxide and 20 per cent fat may prove a more effective neutralizer.

Dirnate, a new anhydrase inhibitor, may be useful in inducing urinary sodium excretion when abnormal fluid retention results from sodium retention. This may be a more practical approach than exchange resin therapy.

Powdered gelfoam and thrombin may become efficient aids in the control of massive upper gastrointestinal hemorrhage. In esophageal varix bleeding they are adjunctive to tamponade.

A host of antispasmodics, as usual, are being produced. Bentyl hydrochloride in our experience gives promise. We are evaluating BL-139 which Wellum and Pollard have conservatively commented on. Some of the new anticholinergics promise antispasmodic influence adjunctive to effective secretory or motility inhibition.

Chloretics such as Sc-1674 seem comparable with dehydrocholic acid.

Among the new direct acting amebacides are fumagillin, an antibiotic, and Win-778, a combination of aralen and quarcyl.

Entibios is projected for the comprehensive management of diarrhea.

Stilbamidine has brought about a remarkable response in antocutaneous blastomycosis.

THE ANTICHOLINERGIC DRUGS

Inhibition of secretory and motor gastroenteric function through chemical selective parasympatholytic action seems achieveable. The psychosomatic approach in patient management, an accomplishment dependent upon an interplay of physician ability and patient receptiveness is neither measurable nor replaceable. The actual controlling influence over stimuli mediated through the cholinergic components of the efferent innervation of gastrointestinal tract, however, has been acclaimed objec-

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1575 was generously supplied by Doctor Gilbert M. Bayne, Medical Division of Sharpe and Dohme, West Point, Pennsylvania.

Banthine and Sc-3171 were generously supplied by Doctor J. Wm. Crosson, Department of Clinical Research, G. D. Searle and Company, Chicago, Ill.

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tively obtainable by proper application of cholinergic blocking agents.

Banthine bromide, the first of the series of anticholinergics, gained enthusiastic panaceal endorsement. We have become clinically cognizant of the value of this drug and others of the anticholinergic group in the control of secretory and motor dysfunction of the gastrointestinal tract. Controversial thought that these drugs were neither superior to nor necessary for replacement of atropine has been disproven. Atropine (neuro-effector blockage) action on postganglionic cholinergic nerve endings is supplemented by autonomic ganglion blockade.

Since our early observations on banthine, we have studied prantal methylsulfate, 1667 (Schering), SC-3171 (Searle), U-0382 (Upjohn), 1575 (Sharpe & Dohme), Ba-5473 (Ciba), and Win-4369 (Winthrop). We abandoned numerous other preparations after brief and inadequate evaluative periods. Certain side effects which contraindicated usage in our study may become indications in other fields. It was impractical to attempt greater inclusiveness.

In addition, with prantal we have evaluated a repeat action tablet (repetabs) containing 50 mg. of prantal in the readily available outer layer of the tablet and 50 mg. reserved for enteric absorption in the resistant covered inner portion. This is presumed the ideal preparation for bedtime administration and for more complete coverage, with only two administrations every twenty-four hours. Symptomatic, side effect and radiologic evidence indicate that prantal is more effective when available for duodenal or enteric absorption than when an identical dose is administered in the oral tablets. Time of oral administration, for greatest efficiency, should avoid widely the ingestion of food.

In motility studies, the repetabs prantal simulated closely the effect of parenteral and intraduodenally administered prantal; in all instances it appeared more constantly effective than the routine oral tablets.

Table 1 tabulates our concept of the therapeutic position of these drugs in gastroenterology.

TABLE 1

GASTROINTESTINAL INDICATIONS for the ANTICHOLINERGICS

AGENTS STUDIED	DEFINITE	PROBABLE	POSSIBLE	DOUBTFUL	DEFINITE GASTROINTESTINAL CONTRAINDICATIONS
BANTHINE	DUODENAL ULCER	GASTRIC ULCER	PYLOROSPASM	HIATAL HERNIA	ESOPHAGEAL SPASM PEPTIC ESOPHAGITIS
PRANTAL	DUODENITIS	GASTRITIS (hypertrophic)		GASTRITIS (atrophic)	ESOPHAGITIS
SCH 1667	FUNCTIONAL HYPERACIDITY	GASTRITIS (superficial)	GASTRIC MUCOSAL PROLAPSE INTO DUODENUM	ACHLORHYDRIA	SUSPECTED HEMORRHAGE
SC 3171	ACUTE PANCREATITIS	ILEOSTOMY	REVERSE GASTRO-ESOPHAGEAL PERISTALSIS		SUSPECTED PENETRATION
1575	PANCREATIC FISTULA	COLOSTOMY	RELAPSING PANCREATITIS	CHR. PANCREATITIS (fibrocystic)	ILEUS
U 0382	DUMPING SYNDROME	FUNCTIONAL DIARRHEA	ACUTE ENTERO-COLITIS	REGIONAL ENTERITIS	DEFINITE PYLORIC OBSTRUCTION
WIN 4369		GASTRO-COLIC REFLEX		CHR. ULCERATIVE COLITIS	
BA 5473					

In peptic ulcer, definitely with duodenal ulcer, and probably with gastric ulcer, duodenitis, and functional hyperacidity, all of the preparations under trial have uniformly, though in variable efficiency, relieved symptoms related to hypersecretion and hypermotility. They do not, however, forestall penetration, obstruction, or hemorrhage.

In pancreatic disease, by inhibition of gastric secretion, and possibly, by some direct antisecretory action on the pancreas, pain relief is often achieved with symptomatic control of acute manifestations. Accentuation of ileus, however, may be contraindicative in some instances.

Postgastrectomy dumping syndrome has responded clinically and roentgenologically in seven cases evaluated, comparing prantal and banthine; there was no appreciable difference in the two drugs when used parenterally; banthine seemed more constantly effective on oral administration.

We are not clinically able to evaluate gastritis without gastroscopy. In early observations with prantal and banthine there seemed alleviation of the degree of associated gastric hypertonicity and hypersecretion with symptomatic response in those cases limited to the antral segment.

The hypermotility in ileostomy patients has been remarkably well controlled; an actual ileus has been inadvertently produced at times. Colostomy patients are benefited but to less extent. In most instances of gastrocolic reflex the response is remarkable.

While pylorospasm symptomatically re-

sponds, this is not confirmable by fluoroscopic evaluation.

In hypermotility of the small and large bowels associated with chronic inflammatory disease these drugs do not control the diarrhea and peristaltic activity in the acute inflammatory stages. When the disease process is quiescent and only the emotional component is under consideration they are more effective. However, where the intestinal hypermotility is gastroduodenal in origin they seem almost specific. Diarrhea concomitant with achlorhydria responded only to U-0382, 1575 and Sc 3171, all of which were capable of producing constipation.

In entities listed as gastric mucosal prolapse into the duodenum and reverse gastroesophageal peristalsis it is impractical to attempt evaluation since the true significance of these findings is not established. If relapsing pancreatitis is controllable by inhibition of gastric secretion the anticholinergics seem indicated.

Comment on the other indications is not justified.

Contraindications related to the esophagus are definite. The anticholinergics accentuate and even produce a transient spactic disturbance. While in peptic esophagitis and symptomatic hiatal hernia their antisecretory action would be beneficial, clinically they have been consistently inefficient.

Of the series studied, banthine and prantal being commercially available, have been adequately evaluated. Our comparative cept is that each is an effective anticholinergic, that banthine is more potent but has more undesirable side effects than prantal. In prolonged administration prantal continues effective while with banthine tolerance and loss of effectiveness is fairly constant. Sch. 1667 has been very inconsistent in action. U 0382 is a most effective drug with an efficient prolonged oral action.

Side effects, however, with 0382 are frequent; constipation and pyrosis are common. Sc 3171 (Pro-Banthine) is favored by infrequent mild side effects and an efficient action approximating four hours. It may be more potent than banthine. Between these two, 1575, though tentatively evaluated less potent, seems to have longer action than Sc. 3171 and less side effects than 0382. Our trial of the other drugs has been too incomplete for conclusive opinion of status.

In a purely clinical evaluation of these drugs it is our impression that there are extremes of variability in patient response and reaction. It is often necessary to change from one drug to another until the patient gives evidence of therapeutic response without undue side effect. Tolerance to one anticholinergic may not be transferred to another with a slightly different chemical formula. Strangely enough, the election of one anticholinergic over another does not fit the issumed efficiency in relation to the patient's symptomatology or dysfunction but seems guided more by personal reaction to the particular drug.

Our observation on side effects common to these drugs has been previously published. Variation occurs, atropine-like effects are consistently encountered. We are impressed with the clinical observation that xerostoma is more pronounced with the drugs whose study indicates marked gastric influence; dysuria more often accompanies constipating influence and is thought to indicate colon immobilization. Obviously in some instances both extremes occur.

GASTROENTERIC MOTILITY INFLUENCES BY ANTICHOLINERGICS

Motility studies are difficult to interpret; In the human there is no ideal evaluative mode. Intraluminary balloons must excite unusual activity in some instances, produce fatigue in others; their presence is not comparable with normal function. Too, tonicity may not necessarily be synonymous with effective peristalsis and motility. Appearance time of inert color substances in ileostomy and colostomy patients is accurate but these patients have altered physiology due to mechanical factors; further knowledge of the study under way is in itself emotionally influencing. Despite its inaccuracy we feel barium progress studied fluoroscopically is more instructive in the

intact human and gives more accurate information than the more meticulous manometric studies. With this concept and tolerance to anticipated criticism we became engrossed in this study, which though not definitely conclusive lends itself to many reasonable hypotheses.

In the initial series, 11 patients were subjected to an oral placebo motility study for control, followed by consecutive studies on each of three anticholinergics administered orally an hour prior to radiologic study. They were not aware of being under study or of the character of the drugs administered. In 6 patients, 100 mgs. of banthine and 200 mg. of prantal were compared. In 3 patients, 400 mg. of prantal and 40 mg. of Sch 1667 were used. Each gastrointestinal study consisted of fluoroscopic examination and films, at hourly intervals for six hours. No attempt was made to study subjective reactions. The opinions are based strictly on radiographic interpretation.

Study No. 1: Normal (100 mg. banthine: 200 mg. prantal, oral).

On the control at the first hour there was a trace of barium in the stomach with the head of the barium column in the proximal ileum. At the end of two hours most of the barium was in the terminal ileum. At the fourth and fifth hour, the barium was in the terminal ileum and ascending colon. At the sixth hour all of the barium was in the colon. On banthine, at two hours and again at the third hour there was a considerable amount of barium in the stomach. On prantal, at the end of two hours, the stomach was empty. The barium motility beyond the stomach with prantal and banthine was almost identical with slow transit through the proximal small bowel to reach the terminal ileum but not the colon at the sixth hour. Banthine prolonged gastric emptying time while prantal did not exert this effect. No significant difference was obvious in the effective inhibition of small bowel motility by both drugs.

Study No. 2: Duodenitis (100 mg. banthine: 200 mg. prantal).

On control, the first hour film showed barium spread from the stomach through the entire small bowel, extending to the splenic flexure of the colon. At the second hour the stomach was empty, and, by the fourth hour the barium was in the large bowel. On prantal, at the first hour the stomach contained barium, the head of the meal, however, was in the ileum; the status persisted in the second hour. At the third hour, all of the barium was in the terminal ileum. At the fourth hour the barium had traversed the transverse colon, entering the sigmoid at the sixth hour. With banthine, at the third hour most of the barium still remained in the stomach, the head of the colon being in the mid-jejunum. At the fourth hour there was still barium in the stomach; the bulk of the meal was in the jejunum. At the fifth hour barium had entered the ileum where it remained through the sixth hour.

Gastric emptying was delayed with both drugs, significantly more with banthine. Small bowel activity was considerably slowed with banthine but only slightly with prantal.

Study No. 3: Subtotal gastrectomy (100 mg. prantal: 200 mg. banthine).

On control, at an hour, the barium was spread from the jejunum into the ascending colon. At the second hour the barium was confined to the ileum and ascending colon and remained about the same level during the succeeding films. With prantal, even at the fourth hour all of the barium remained in the proximal jejunum. Through the sixth hour the barium remained in the ileum. With banthine, results were approximately the same; at the fourth hour the barium was confined to the jejunum; at the fifth hour barium entered the ileum; and at the sixth hour the terminal ileum.

There was a comparable and definite decrease in motility throughout the small bowel by both prantal and banthine.

Study No. 4: Subtotal gastrectomy (100 mg. banthine: 200 mg. prantal).

In the control, at one hour, barium spread extended from the jejunum to the splenic flexure. At the third hour barium had reached the rectum. With prantal, in one hour, barium was spread from stomach to jejunum. At the second hour the column entered the ileum. At the third hour it entered the cecum and progressed little thereafter. With banthine at the end of one hour, the barium had left the stomach but remained high in the jejunum to enter the proximal ileum in the second hour. At the third and fourth hours, the barium remained in the ileum; at the fifth hour barium progressed to the cecum and remained there through the sixth hour. Both drugs were minimally effective in retarding motility in the upper small bowel during the first two hours of the series.

Study No. 5: Subtotal gastrectomy (100 mg. banthine: 200 mg. prantal).

The control at the end of one hour showed barium in the stomach and upper one-third of the jejunum. At the end of three hours barium was still present in the stomach, but the head of the column was in the ileum. At the fifth hour barium was entering the ascending colon, and at the sixth hour barium had progressed to the hepatic flexure. With prantal, at the end of two hours, all of the barium remained in the stomach. At the end of four hours barium entered the proximal jejunum. At the fifth and sixth hour the barium

spread extended from the stomach to the distal ileum. With banthine, even at the end of six hours, most of the barium remained in the stomach, a small amount being present in the upper jejunum.

There was a marked effect of both banthine and prantal on gastric emptying. A small amount of barium which escaped from the stomach showed that there was a retardation in the small bowel activity by both drugs which was approximately the same.

Study No. 6: Multiple abdominal operations and extensive small bowel resection (100 mg. banthine: 200 mg. prantal).

In the control of barium reached the midileum in the first hour, the stomach being empty at the end of two hours. At the end of five hours the barium had entered the rectum. With prantal, there was retention of barium in the stomach at the end of four hours and the barium had not reached the ileum until the end of five hours. With banthine, the stomach emptied completely one hour earlier than prantal and the barium reached the ileum one hour earlier than with prantal. In addition, at six hours, the barium had reached the sigmoid colon with banthine, whereas with prantal it had not entered the cecum.

Hypermotility was inhibited by both drugs, with prantal possibly more effective.

Study No. 7: Hiatal hernia, inactive duodenal ulcer (100 mg. banthine, 400 mg. prantal).

On the control at the end of one hour barium had progressed through the entire small bowel into the transverse colon. At the second hour, the stomach was empty and barium extended into the sigmoid. With prantal, at the second hour there was a moderate gastric retention of barium; the head of the column had progressed only to the jejunum. At the fourth hour, the stomach had emptied, barium had progressed to the proximal ileum. At the fifth hour, barium had entered the cecum; it reached the sigmoid at the sixth hour. With banthine, there was more marked gastric retention; the stomach was not empty until the fourth hour. Barium had not entered the ileum until the fourth hour. By the fifth hour the barium was still confined to the ileum but at the sixth hour it had reached the transverse colon.

There was again moderate inhibition of gastric and small bowel motility with both prantal and banthine; banthine was more effective in retarding gastric emptying.

Study No. 8: Subtotal gastrectomy (100 mg. banthine: 400 mg. prantal).

Control film showed a trace of barium in the pouch through the first four hours. At the end of one hour the barium had reached the terminal ileum.

At the end of three hours barium was present in the ascending colon, at four hours in the hepatic flexure, at five hours in the splenic flexure, at six hours in the sigmoid. With prantal there was barium in the stomach through the five hour films. At one hour it was present in the jejunum only; at two hours it had progressed to the midileum; and at the end of five hours to the cecum. With banthine there was barium in the stomach through the four hour film. In one hour the barium had progressed through the terminal ileum. At the end of three hours there was a trace of barium in the cecum; and at the end of five hours it had progressed to the descending colon.

Prantal retarded upper small bowel motility rather markedly in the first hour; that is, barium had progressed to the jejunum only compared to the terminal ileum with both banthine and the control.

Study No. 9: Subtotal gastrectomy (400 mg. prantal; 40 mg. Sch-1667).

On the control film at one hour, barium was distributed from the jejunum to the transverse colon. At the second hour, all of the barium had progressed to the terminal ileum with the head of the meal in the descending colon. With prantal, the first hour film showed barium entering the ileum. On the second hour film, the head of the barium meal had reached the transverse colon. However, the bulk of the barium remained in the jejunum through the third hour film. With Sch-1667, there was no significant difference in any of the films from the control. The barium had reached the splenic flexure at one hour.

There was no effect on gastric emptying with either drug. The prantal series showed some atonicity of the upper small bowel during the first two hours, no similar finding was present in the Sch-1667 series.

Study No. 10: Duodenal ulcer (400 mg. prantal: 40 mg. Sch-1667).

Control films showed barium to the midjejunum at two hours, the stomach being empty. At three hours the barium was distributed from the lower jejunum to the ileum. At four hours the barium was confined to the ileum and there was very little progression on subsequent films. The series with 400 mg. of prantal showed no effect. With Sch-1667 there was marked gastric retention through the three hour film, with the head of the meal still in the jejunum. By the fourth hour the barium had reached the ileum and there was little progression in the remaining film.

In this series, prantal showed no effect. However, there was no retardation of gastric emptying with Sch-1667 and a definite effect on the upper small bowel tone and activity.

Study No. 11: Subtotal gastrectomy (400 mg. prantal: 40 mg. Sch-1667).

On the control the stomach showed considerable barium in the one hour film with a trace of barium being present through the five hour film. Barium was confined to the jejunum through three hours. By the fourth hour it had reached the ileum. With prantal no alteration was noted, there actually being more rapid progression in the

upper small bowel than on the control. With Sch-1667 gastric retention persisted through the second hour film; the barium had progressed only to the jejunum in three hours. The fourth hour film showed the barium in the upper ileum. There was then progression to the ascending colon by the fifth hour.

The impression was that there was no effect with prantal but questionable delayed gastric emptying and small bowel motility influence with Sch-1667 through the three hour period.

DISCUSSION

The changes noted at fluoroscopy consisted of decrease in effective gastric peristalsis by all three drugs. Atonicity and widening of the duodenum was constant.

Seven of these 11 cases had had a recent subtotal gastrectomy. However, there was no correlation between the gastrectomy cases and the nongastrectomy cases as to whether they responded to a drug or not. However, all of the postgastrectomy patients had earlier symptoms related to hypermotility. Several of the subtotal gastrectomy cases showed a marked reduction in gastric emptying with these drugs and none on the control films; whereas 2 subtotal gastrectomy patients showed no effect of the drug as compared to the controls.

In the first 8 studies in which 100 mg. of banthine and 200 or 400 mg. of prantal were used, there was minimal response to prantal in 3 cases, moderate or marked response in 5 cases. Banthine, however, showed minimal response in 2 cases and moderate or marked response in 6 cases. If one examines the figures of all 11 cases in which either 200 or 400 mg. of prantal were used, it is seen that 6 cases had minimal response; whereas 5 cases had a moderate or marked response. With Sch-1667, 1 patient had minimal response and 2 patients had a moderate or marked response. If one compares banthine and prantal in each individual case, we find that in 1 case prantal and banthine had minimal effect. Prantal was slightly better in 1 case and markedly better in 1 case. Banthine was slightly better in 2 cases and markedly better in 1 case. Two cases showed similar results, both of these showing an excellent response to each drug.

While the majority of patients had a definite motility inhibition by each of the drugs, one is not permitted the privilege of accurate prediction. Increasing the dose from 200 mg. to 400 mg. of prantal did not increase effectiveness. The duration of effect of all three drugs is probably an average of less than four hours which explains rapid transit thereafter.

While such comparative studies lend evaluative aid it was evident that one could not constantly anticipate a response. True, such studies in patients must excite some emotional response since the intelligent patient cannot help but wonder why radiologic surveys are so meticulously repeated. It is our thought that case individualization and a single study after a not too obvious earlier control series lends itself better to clinical evaluation. We accordingly have altered our approach. Our impression is tabulated in Table 2.

TABLE 2

ANTI-CHOLINERGIC INHIBITION of GASTRIC EMPTYING

DRUG	NO. of CASES	NO EFFECT	MINIMAL	MODERATE	MARKED
PRANTAL	10	5	2	1	2
BANTHINE	10	3	2	2	3
SCH 1667	5	3	0	1	1
PRANTAL repeat action	10	2	1	1	6
0 382	10	0	2	2	6
WIN 4369	10	4	0	2	4
SC 3171	10	4	1	2	3
1575	5	2	1	2	0

ANTI-CHOLINERGIC RETARDATION of INTESTINAL MOTILITY

DRUG	NO. of CASES	NO EFFECT	MINIMAL	MODERATE	MARKED
PRANTAL	11	2	4	2	3
BANTHINE	8	1	1	2	4
SCH 1667	5	3	1	0	1
PRANTAL repeat action	10	1	2	2	5
0 382	10	0	1	2	7
SC 3171	10	1	2	4	3
1575	5	2	1	1	1
WIN 4369	2	1	1	0	0

Parenterally administered, anticholinergics were uniformly more effective than an equivalent oral dose. Only 0382, orally, approximated parenteral administration. Repeat action prantal was more effective than the regular tablets. Enteric delayed absorption is possibly the explanation for increased efficiency. Administration on an empty stomach increased efficiency of all drugs. If cases of best response to each anticholinergic were selected, for comparison, all would appear equally efficient. It is our impression that the situation could be

colored to fit one's desire but that if individualization of each study is made that there will be variability in patient response, tolerance, and intolerance that should dictate the selection. A series of comparable studies follows indicating the efficiency in selected cases that on control study had shown hypermotility.

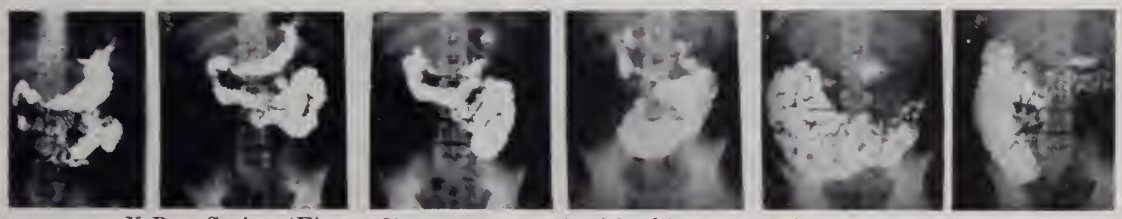
SUMMARY

It is our impression that each of these anticholinergics is an effective motility inhibitor. Instances of impressive influence by each anticholinergic can be presented but such inhibition is not constant with any one of these drugs; our experience with prantal and banthine indicates their relatively consistent and comparable motility inhibition.

Continued clinical evaluation will establish the value of these and other preparations in the management of the gastrointestinal hypermotilities.

X-Ray Series (Figure 1)

This barium motility study was started one hour after oral administration of 200 mg. of prantal. The films were taken at hourly intervals. In this and other prantal studies the fluoroscopist remarked on gastric atonicity, nonpropulsive gastric peristaltic waves, persistence of normal pyloric tonicity. Though barium gravitated from the stomach it moved into a relatively atonic dilated duodenum. The atonicity of the proximal small bowel persisted as evidence of anticholinergic activity though the stomach had emptied. At about the fifth hour the drug influence subsided and barium moved on in a normal pattern thereafter.



X-Ray Series (Figure 2)

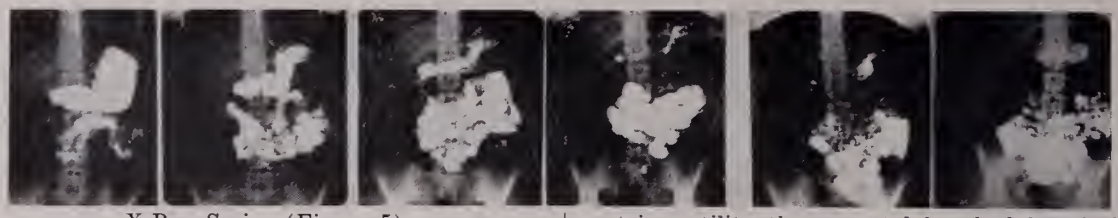
Conducted eight hours ofter 200 mg. of enteric coated prantal (four repetabs). This type of more efficient motility curtailment was encountered with this preparation. Enteric absorption is hypothesized as more efficient and similar response was present following intraduodenal administration.

X-Ray Series (Figure 3)

Conducted one hour after 100 mg. of prantal intramuscularly. The influence is constantly more dramatic and prolonged.

X-Ray Series (Figure 4)

Conducted in a hypermobile postsubtotal gastrectomy patient suffering "dumping syndrome" given prantal, 100 mg. orally, one hour before the study. This series was done to illustrate that influence on the pylorus is not involved and that "dumping" is eliminated.



X-Ray Series (Figure 5)

Conducted one hour after oral administration 100 mg. of banthine. This series, typical of the banthine studies indicates the comparable efficiency of banthine and prantal. Banthine seemed to exert more constant and marked inhibition of gastric motility than prantal but had less influence on barium movement through the proximal small bowel and its entire influence was exhausted on the average in the fourth hour as contrasted with more prolonged action by prantal.

X-Ray Series (Figure 6)

Conducted an hour after intramuscular administration of 100 mg. of banthine. The influence is comparable to prantal. Side effects with the dose of banthine, however, were significant.

X-Ray Series (Figure 7)

Conducted an hour after intramuscular administration of 2.0 mg. of U0382. This anticholinergic's influence orally in a dose of 15 mg. was equal to 2.0 mg. intramuscularly. The effect was more uniformly prolonged than with other anticholinergics. U0382 in this relatively large dose caused pronounced dysuria.

X-Ray Series (Figure 8)

Conducted an hour after intramuscular administration of 30 mg. of Sc 3171. Sc 3171 seemed to have efficient motility influence though variable in duration. Side effects were infrequent.

X-Ray Series (Figure 9)

When administered intramuscularly in a 50 mg. dose, 1575 was more effective than the comparable oral dosage. Side effects were minimal. Duration of action exceeded six hours.

THERAPEUTIC ADVANCES IN GASTROENTEROLOGY
II. (A) THE ANTIBIOTICS (B) CORTICOTROPIN AND CORTISONE

GORDON McHARDY, M. D.
JOHN E. BECHTOLD, M. D.
DONOVAN C. BROWNE, M. D.
New Orleans

Indications for the various antibiotics are readily accepted. Abuse in usage is not unusual. Reiman estimated 1948 penicillin production to be 62 tons; could a sound clinical indication have existed for the use of a reasonable portion thereof? Recognition of therapeutic limitation, antagonism, synergism, and specific side effects unfortunately has not been adequately emphasized.

As the ever increasing development of antibiotics progresses, the great variation in their respective antimicrobial, antiprotozoal and antiviral action must be known in their therapeutic application in order to prevent utter waste, and at times, harm.

Certain antibiotic side effects often produce gastroenterologic patients. Stomatitis occurs with variations from simple cheilitis, with tongue and gum redness, to a severe membranous stomatitis involving the pharynx, larynx, and proximal esophagus. This was formerly considered an antibiotic induced avitaminosis but it appears to be a specific reaction, either a mucocutaneous sensitivity or possibly a moniliasis. The management varies: antihistaminics and corticotropic hormones in the sensitivity reaction, and local antifungal applications such as gentian violet and dilute potassium iodide solutions for the definite fungal involvement. Fatal esophagogastritis complicating aureomycin therapy has been reported. We have observed instances of severe stomatitis with associated dysphagia and substernal pain in two instances of penicillin sensitivity, and too, one of aureomycin reaction. Diarrheal episodes have been annoying and in some instances severely disabling. These are commonly encountered with the wide antibacterial spectrum group (aureomycin, terramycin, chloromycin, neomycin), and are relatively rare with the others. In many instance, they are mild and herein they are suspected of merely altering the flora. When severe protracted diarrhea occurs a moniliasis fungal overgrowth or a resistant staphylococcal predominance may be causal. In any case, a respect for the disabling side effect is indicated. Weight loss and extreme asthenia are also bothersome antibiotic occurrences.

Beyond these side effects we are admonished that drug-fast infections are being created, that synergism or antagonism may exist when two or more antibiotics are used together. Synergistic drug combinations may overcome some instances of drug resistant infection. Synergism, antagonism and indifference existing between antibiotics is determinable only by extensive laboratory study.

We have tabulated (Table 1) our concept of the position of the various antibiotics in gastroenterology.

TABLE 1

GASTROINTESTINAL INDICATIONS FOR ANTIBIOTICS

ANTIBIOTIC	DEFINITE	PROBABLE	POSSIBLE	DOUBTFUL
FUMAGILLIN	AMEBIASIS			
STREPTOMYCIN	TUBERCULOSIS	PERITONITIS	TYPHOID DYSENTERY	
CHLOROMYCIN	TYPHOID	ENTERIC FEVERS	CHRONIC ULCERATIVE COLITIS BILIARY TRACT DISEASE DYSENTERY (SHIGELLA)	
PENICILLIN	LUES ORAL INFECTIONS	PERITONITIS COMPLICATIONS OF AMEBIASIS	CHRONIC ULCERATIVE COLITIS	
AUREOMYCIN	PROPHYLAXIS IN SURGERY PERITONITIS	DIVERTICULITIS TYPHOID	LYMPHOGRANULOMA VENEREUM BILIARY TRACT DISEASE DYSENTERY (SHIGELLA)	AMEBIASIS PANCREATITIS ORAL INFECTIONS REGIONAL ENTERITIS ENTERIC FEVERS CHRONIC ULCERATIVE COLITIS HEPATITIS
TERRAMYCIN	PROPHYLAXIS IN SURGERY PERITONITIS	LYMPHOGRANULOMA VENEREUM BILIARY TRACT DISEASE DIVERTICULITIS ORAL INFECTIONS	AMEBIASIS DYSENTERY (SHIGELLA) CHRONIC ULCERATIVE COLITIS	ACTINOMYCOSIS REGIONAL ENTERITIS TYPHOID and ENTERIC FEVERS HEPATITIS PANCREATITIS
NEOMYCIN	PROPHYLAXIS IN SURGERY PERITONITIS	DIVERTICULITIS	AMEBIASIS CHRONIC ULCERATIVE COLITIS DYSENTERY (SHIGELLA)	

Obviously, our experience has been primarily limited to antibiotics in general usage. We have had no experience with bacitracin, polymixin B or with the innumerable newer antimicrobial agents other than an occasional single unusual experience from which little was derived. In most instances, we have found the antibiotic primarily supplemental to other meas-

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ures, and therefore, feel it necessary to comment further on our tabulation.

Amebiasis: Only terramycin and fumagillin have an established position in intestinal amebiasis; terramycin by virtue of wide antibacterial spectrum, fumagillin by direct amebacidal action. Perhaps even they should be used to complement each other or another amebacidal agent. In our experience fumagillin in a regime of 60 mg. daily for ten days is proving efficient. Results with the other antibiotics have been most inconsistent. We are studying a series combining neomycin and fumagillin. If secondary infection is a significant complication to amebiasis, specific indication for a wide spectrum antibacterial antibiotic exists. In amebic hepatitis no antibiotic approaches the efficiency of chloroquin.

Biliary Tract Diseases: When infection is superimposed and there is no obstruction to the antibiotic reaching the site through the bile there is a fairly specific indication for the wide spectrum group, especially aureomycin, terramycin, and neomycin. The indication is greater in postcholecystectomy syndrome, delayed surgery in acute cholecystitis, and in the complications to cholecystic disease and cholangitis.

Hepatitis: There has been no satisfactory clinical proof that antibiotics have specific or supplemental action. There is a suggestion that aureomycin, chloromycin and terramycin may be injurious, producing fatty infiltration. However, the patient's susceptibility to intercurrent infection may have concurrent diseases as the antibiotic indication.

Dysentery: As yet no antibiotic has proven superior to the sulfonamides although there seems to be promise for chloromycin, aureomycin, terramycin and neomycin. In shigellosis and probably in salmonellosis and the paratyphoid fevers the indication arises, and typhoid probably falls into the same category. In recent years in our vicinity most such cases have been so mild, spontaneously responsive and sulfonamide responsive that no further therapy was justified.

Oral Infections: We are impressed with the superiority of penicillin over other antibiotics in buccal infections. In Vincent's infections, presurgical and post-surgical management has been possible with only occasional need for adjunctive streptomycin.

Prophylaxis in Intestinal Surgery: Bowel sterilization before surgery has proven one of the most important antibiotic indications. At present either terramycin or neomycin is the drug of choice, since aureomycin so frequently is productive of significant diarrhea, and chloromycin is stigmatized. Preoperative and postoperative administration of either antibiotic minimizes the dangers of resection. At present we have neomycin under study with a rapid preparation program of 0.5 mg. every hour for four doses, then 0.5 mg. every four hours for six doses. A seventy-two hour preoperative is adequate. Complicated postoperatives may exert indications for combined antibiotics and especially for intravenous administration.

Gastrointestinal Perforation: Peritonitis resulting from viscus leakage requires some thought as to the most specific antibiotic, availability for parenteral administration and the possibility of synergistic influence by combination. Penicillin and streptomycin, apparently complementing each other, have enjoyed popularity; this is definitely so in upper gastrointestinal perforations. Aureomycin, terramycin, and possibly, neomycin are elected superior in bowel perforation. Aureomycin is efficient but intravenous administration is often complicated by a severe chemical phlebitis. Terramycin intravenously is better tolerated and is probably the antibiotic of choice. Neomycin may be equally effective when only oral administration is required.

Ulcerative Colitis: The indication here is purely for control of secondary infection in the hope of inducing remission. There can be no contention for specificity.

Tuberculosis: Responds in a definitely ameliorative fashion and eliminates the need for operative intervention in all but the rare obstructive instances. Whether isonicotinic acid therapy will replace streptomycin in this respect awaits evaluation.

Syphilis: Although luetic involvement of the gastrointestinal tract is now a rarity,

should it be encountered, penicillin has specificity.

Discussion: Despite early enthusiastic reports, aureomycin may be contraindicated because of diarrhea accentuation. Obviously the gastroenterologist has fairly wide applicability for antibiotics. Of the newer antibiotics fumagillin with direct amebacidal action and possible other antiparasitic influence is most promising. Neomycin may prove comparable to terramycin.

Therapeutic abuse is frequent. Of 25 cases of chronic diarrhea reviewed, all had had two or more antibiotics for an average of twenty days without definitive study. Penicillin has been used, with poor rationale, for peptic ulcer. All of the antibiotics are often used in large dose schedule for pancreatitis with questionable value, in regional enteritis, and functional secretory and motor disturbances with harmful if any influence. The abuse, however, does not detract from the great contributions in peritonitis, tuberculosis, surgical preparation and amebiasis.

CORTICOTROPIN (ACTH) AND CORTISONE

Neither corticotropin nor cortisone has curative potentiality. Neither bactericidal nor virucidal action can be claimed. These hormones by cellular protective action, coupled with diminution in tissue reaction, apparently afford opportunity for cellular recovery. The metabolic influences (side effects) of disturbed carbohydrate utilization, electrolyte derangement, disordered mental states, androgenic action and Cushing's syndrome restrict indiscriminate usage. Enzymatic action increasing pepsin and trypsin secretion creates a contraindication in peptic ulcer patients; perhaps diminution in lysozyme production is conducive to healing in ulcerative colitis.

In gastroenterology, administration of these hormones may be mandatory in severe systemic infections not responding adequately to chemotherapy. They are of appreciable value in nontropical sprue, regional enteritis and the acute phase of chronic ulcerative colitis. They are possibly indicated in anorexia nervosa, hypoglycemic states, acute and chronic hepatic disease, sclerodermal gastrointestinal involvement and acute drug sensitivities with digestive tract manifestation. (Table 1).

Administrative modes, contraindications and precautions apply without variation in gastrointesinal therapy. (Table 2). Our personal experience dictates a preference for intravenous ACTH in the hospitalized patient; the daily requirement by slow (eight hour) drip of 20 to 30 mg. constitutes the equivalent of 100 to 300 mg. given intramuscularly. The intramuscular gel may be as effective a substitute, however. Parenteral cortisone, however, hardly compensates in its slightly prolonged action for the expense and inconvenience unless the oral route is not feasible. Contraindications include acute bleeding tendencies and psychoses, peptic ulcer, hypertension, (ACTH), congestive failure, lues, tuberculosis, azotemic stages of glomerulonephritis and sensitivity (pork corticotropin). The usual precautions: restricted sodium and fluid intake, potassium administration (except in renal impairment), insulin if hyperglycemic, a high protein diet and thyroid extract, if indicated, are observed. Laboratory control is necessary in large dose schedule

TABLE 2

GASTROINTESTINAL INDICATIONS for ACTH and/or CORTISONE

DEFINITE	PROBABLE	POSSIBLE	DOUBTFUL	DEFINITE GASTROINTESTINAL CONTRAINDICATIONS
CHRONIC ULCERATIVE COLITIS (FULMINATING PHASE)	OPERATIVE RISK EVALUATION	GENERALIZED PERITONITIS	SCLERODERMA	PEPTIC ULCER
NON-TROPICAL SPRUE	ACUTE DRUG SENSITIVITY	REGIONAL ENTERITIS	HEPATIC DISEASE a HEPATITIS b CIRRHOSIS	CERTAIN ELECTROLYTE IMBALANCE
	HYPOGLYCEMIC STATES	ANOREXIA NERVOSA	MESENTERIC ADENITIS	ASSOCIATED PSYCHOSES (DEPRESSIVE)
	TYPHOID FEVER (SEVERE, FULMINATING)	WHIPPLE'S LIPODYSTROPHY	HODGKIN'S DISEASE	PENETRATING LESIONS
			PANCREATITIS (CYSTIC FIBROSIS)	TUBERCULOSIS
				SENESCENCE

TABLE 3

GASTROINTESTINAL COMPLICATIONS to ACTH and/or CORTISONE THERAPY

I. PEPTIC ULCERATION
- A. EPIGASTRIC DISCOMFORT—5%
- B. ULCER RECURRENCE—25%
- C. UNSUSPECTED HEMORRHAGE
- D. CONCEALED PERFORATION

MECHANISM OF ACTION
1. INCREASE IN GASTRIC PEPSIN—75%
2. INCREASE IN UROPEPSIN—100%
3. INCREASE IN GASTRIC ACIDITY
4. PROTEIN CATABOLISM WITH IMPAIRED TISSUE REPAIR

II. HEPATITIS and CIRRHOSIS
- A. ASCITES—19%
- B. INTRA-ABDOMINAL HEMORRHAGE, PORTAL VEIN THROMBOSIS, ESOPHAGEAL HEMORRHAGE
- C. MAY INDUCE FATTY LIVER CHANGES

III. OTHER COMPLICATIONS
- A. FAILURE OF INTESTINAL ANASTOMOSIS
- B. BOWEL HEMORRHAGE
- C. ILEUS AND CONSTIPATION DUE TO HYPOKALEMIA
- D. ABDOMINAL CRAMPS DUE TO PITRESSIN CONTAMINATION IN ACTH
- E. FLATULENCE FROM ORAL CORTISONE

with prolonged administration but is rarely required in short term therapy (seven to ten days).

A. *Severe Systemic Infectious Processes*: Generalized Peritonitis—Boling and associates stressing the combined use of ACTH and chemotherapy (antibiotics) in a limited control study conclude diminution in toxicity, local and systemic, abbreviated convalescence, and the concept of probable reduction in mortality. We have not appreciated this indication for the use of these hormones and would only consider it as an adjunct should response be not forthcoming from chemotherapy. There have been reports favoring cortisone as adjunctive to chemotherapy in typhoid fever with the claim of more rapid response than in the control series on chemotherapy alone. While we have had no personal experiences in such therapeutic trial, our observations in the past have indicated a variability in the severity and response to typhoid. Because the typhoid ulceration is often high in the small bowel and is prone to perforate, we would tend to resist the enthusiasm for steroid therapy unless the response to chemotherapy was disappointing.

B. *Regional Enteritis*: Refractory to most therapy and characterized by spontaneous remission and exacerbation regional enteritis has rendered therapeutic evaluation difficult. The "striking amelioration" of early reports has mellowed to comments on nutritional improvement, euphoria and febrile response. Our study of 4 severe cases given ACTH indicated no change whatever in 3 and a transient subsidence in obstructive phenomena in the single patient benefitted. Though many reports are favorable, none report radiologic change from the pretreatment pattern. We observed 2 patients given cortisone during a quiescent phase of regional enteritis for concomitant severe rheumatoid arthritis. There was no alteration in the status of the enteric involvement in 1, and a severe exacerbation clinically and radiologically in the second case after being on cortisone sixteen days. The activity of the enteric manifestations in this patient did not subside during four additional weeks on cortisone or after a ten day trial on ACTH. After nine weeks this bout apparently ran its natural course and has now been in a remission for eighteen months.

It is our feeling that the election to use ACTH or cortisone in this disease entity may be rationalized in that our present therapy is purely empirical and often inadequate. It apparently is truly indicated in the critically ill person when an ameliorative period is sought in preoperative preparation and in instances resistant to the usual methods of treatment in the hope of achieving a remission. We should remain aware of the observation of Brown and his associates that "ACTH is not consistent in its effects although it is curious that cases of recurrence after operation have had more benefit than unoperated cases!"

C. *Nontropical Sprue*: Mention of a symptomatic nontropical sprue response to cortisone without confirmatory alteration in fat absorption by Kinsell has been more emphatically endorsed by Taylor and his associates. On the postulation that sprue resembles adrenal cortical insufficiency (asthma, hypotension, pigmentation, flat glucose tolerance curve, decreased 17-ketosteroid and corticosteroid excretion and steatorrhea), and that deficient phosphorylation accounting for deficient fat absorption may be adrenal in origin, a trial on cortisone was justified. In a 6 case study, Taylor and his associates are enthusiastic over the clinical response; in 2 cases they demonstrated more efficient intestinal absorption. Concluding efficiency of cortisone therapy in exacerbation, they conservatively reserve opinion on long-term management.

D. *Chronic Ulcerative Colitis*: Controlled studies by competent and conservative clinicians have permitted enthusiastic conclusions of achievement of rapid and impressive remissions in the acute phases of this disease. Welcoming any aid in this entity so etiologically obscure, there has been too uninhibited an application of these agents to all stages of the disease. There should be closer adherence to Bargen's dic-

tates that they be restricted to the acute fulminating phase of the disease in which an adjunctive stimulus is needed to carry the patient through a critical period. Even then it should be employed with full cognizance of the potentiality of masked perforation and of serious emotional disturbance. There does not seem justification for prolonged therapy advocated by many since there is no measurable evidence of specific efficiency in this respect. Our experience with the application of these hormones to the management of ulcerative colitis has not been impressive. Control study was impractical, the disease being too variable. All cases received concomitant chemotherapy. Using ACTH and cortisone only in the acute fulminating phases of the disease we observed consistently appetite stimulation and amelioration of diarrhea. Euphoria and febrile response was variable. Of 14 cases reviewed, progression of the disease process occurred in 6 patients; continuous massive hemorrhage and pseudopolypoid hyperplasia was manifest in 3 of these, perforation in 1, and fistula formation in 1. Eight patients of the 14 showed a satisfactory remission after a bed rest period averaging eighty-four days; this is not comparatively impressive. When one further studies the 6 complete failures, there is encountered a masked perforation with generalized peritonitis, and 2 ileostomies. The remaining 3 cases finally responded to a "sanitorium regime" but 2 have had recurrence of moderate severity. Of the 8 patients who may be looked upon favorably, 4 have remained quiescent, 2 have had mild exacerbations, 1 has had a single severe recurrent illness.

Kirsner and Palmer, in their usual conservatism, indicate frequency of striking remissions, similar clinical improvement, though less prompt, without corticotropin, frequency of relapses though less severe. Perhaps were we not skeptics we would concur fully instead of restricting our endorsement to justifying a brief trial adjunctively, in the acute crisis of fulminating ulcerative colitis. At present, we cannot justify prolonged large dose therapy as suggested by Rosenberg and his associates. We have had the opportunity of reviewing some cases so managed with extensive interesting metabolic studies on individuals who have become dull and moon-faced but still have active ulcerative colitis.

E. *Anorexia Nervosa*: Adjunctive to psychotherapy Thorn and his associates report, in a restricted observation, ACTH to have been an impressive appetite stimulant. Kinsell had a similar favorable response. A single observation by ourselves in a patient incorrectly diagnosed Whipple's lipodystrophy brought about an excellent response which has been sustained for eleven months. There may be justification for such therapeutic speculation.

F. *Acute and Chronic Hepatic Disease*: It is conceivable that these agents may be indicated in severe hepatic disease where cellular protection is so avidly sought, nutrition is so precarious, where the general status of a crisis often exists and where emotional depression is frequent. Glycogenesis, readjustment of carbohydrate and protein metabolism and steroid maintenance of the body's homeostatic mechanism seems to justify their use. However, liver function studies during cortisone therapy have not substantiated any apparent change of significance attributable to cortisone. Fluid retention, increased blood coagulability, and potentiality of portal vein thrombosis mitigate precaution. Fatty infiltration of the liver is experimentaly a concomitant of steroid therapy. Thorn and his associates sponsor favorable thought. Flink and Williams have indicated presumed therapeutic value. Hanger adds endorsement. Kinsell had no response; his two severely ill patients expired. Bongiovanni and Eisenminger have reported exsanguinating esophageal hemorrhage in a hepatic patient with steroid therapy.

We have reviewed the case studies in five instances of severe infectious hepatitis who received ACTH; 4 patients expired and at autopsy extensive hepatocellular destruction was found apparently no different from that encountered in previous cases not treated with ACTH; 1 patient survived but has chronic hepatic disease with a sustained

abnormal liver profile during a six month follow-up.

An unusual instance of hepatitis concomitant with or resulting from infectious mononucleosis and subsequently complicated by severe chronic ulcerative colitis was managed with ACTH initially and later with cortisone. Hepatic recovery was slow and incomplete. Ulcerative colitis developed while on hormone therapy and subsequently progressed to require ileostomy.

A single instance of postoperative "hepato-renal syndrome" expired. The addition of ACTH to the postoperative period created an electrolytic imbalance impossible to interpret and to combat.

One of our former associates, (Dr. John McMahon), has reported an instance of hepatitis precipitated by myocrysine therapy for rheumatoid arthritis which the patient was receiving in conjunction with cortisone!

We are hardly inclined to try the hormones in severe chronic hepatitis with ascites wherein the control of electrolytes already requires guidance.

G. *Sclerodermal Gastrointestinal Involvement*: May be an indication for ACTH therapy. We have observed a patient in whom rheumatoid arthritis has indicated cortisone who has the radiologic findings suggestive of sclerodermal esophageal disease. No response in the esophageal lesion was obvious. Lunseth and his associates report an instance of sudden change from a chronic course to an acute fulminating fatal illness during corticotropin therapy; we have had an identical experience. Steroid hormones seem to be contraindicated in the face of a limited adverse experience.

H. *Drug Sensitivities with Digestive Tract Manifestations*: There is common agreement that ACTH and/or cortisone has been efficient in alleviating allergic manifestations. In gastroenterology, the glossitis, membranous stomatitis, proctitis and enterocolitis, so frequently encountered after antibiotics, may be to some degree considered a drug sensitivity. Alteration in bacterial flora and replacement by molds and resistant forms of staphylococci seem accepted as the most likely explanation. The less frequently occurring nonthrombocytopenic purpura and the frequent urticaria and other chemotherapy induced sensitivities are encountered in gastrointestinal practice. In 3 instances of refractory membranous stomatitis, the response to adjunctive cortisone was dramatic. There has been a satisfactory response in 2 purpuric cases and a reasonably frequent response in the urticarial lesions. We have not justified the use of hormones in the diarrheal states or in pruritis ani.

Incidental: Plausibly the steroid hormones may be useful in Whipple's lipodystrophy, hypoglycemic phases (idiopathic and of chronic pancreatitis), gastrointesinal involvement of Hodgkin's disease, and in mesenteric adenitis. No authoritative confirmation indicates proven value; we have had no personal success in such entities.

REFERENCES

ANTIBIOTICS

1. Speck, R. S., Jawetz, E. and Gunnison, J. B.: Studies on antibiotic synergism and antagonism. Arch. Int. Med. 88:168, 1951.

2. Curtis, V. J., Giliberti, J. J. and Schraft, N. C.: Esophogastritis complicating aureomycin therapy. New York J. Med. 51:1195, 1951.

3. Dearing, W. H. and Heilman, F. R.: Effect of antibacterial agents on intestinal flora of patients, Gastroenterology 16:12, 1950.

4. Rappaport, E. M. and Rappaport, E. O.: Typhoid enterocolitis simulating bacillary dysentery. Report of case with cure by chloromycetin. New England J. Med. 242.698, 1950.

5. Hall, W. H.: Treatment of chronic human ameblasis with aureomycin, New England J. Med. 244:495, 1951.

6. Berrovitz, Z. T.: Chloromycetin therapy of chronic ulcerative colitis, Gastroenterology 16:19, 1950.

7. Wright, L. T., Schruber, H., Metzger, W. L. and Parker, J. W.: An evaluation of aureomycin therapy in peritonitis, Surg. Gynec. & Obst. 92:661, 1951.

8. Reiman, H. A.: Infectious diseases, Arch. Int. Med. 87:128, 1951.

9. Most, H., Tobie, J. E., Bozicevich, J. and Reardon, L. V.: Terramycin 100% effective against amebiasis, Pub. Health Rep. 65:1684, 1950.

10. Jawetz, E.: Antibiotic synergism and antagonism, Arch. Int. Med. 90:301, 1952.

11. Knight, V.: Clinical evaluation of aureomycin, chloramphenicol and terramycin, New York State J. Med., 50:2173, 1950.

12. Most, H. and Van Assendelft, F.: Laboratory and clinical observation on the effect of terramycin in the treatment of ameblasis, Am. J. Trop. Med. 31:284, 1951.

13. Killough, J. H. and Magill, G. E.: Terramycin in epidemic typhus, amoeble dysentery and typhoid, J. A. M. A., 147:1737, 1951.

14. Lepper, M. H. *et al*: Effect of large doses of aureomycin on human liver, Arch. Int. Med. 88:271, 1951.

15. Lepper, M. H. *et al*: Effect of large dose of aureomycin, terramycin and chloramphenicol on livers of mice and dogs, Arch. Int. Med. 88:284, 1951.

16. Soborov, V. M., Jay, A. R. and Watson, C. J.: The

effect of aureomycin on urobilinogen formation and the fecal flora., J. Lab. & Clin. Med. 37:52, 1951.

17. Pappenfort, R. B. and Schnall, E. S.: Moniliasis in patients treated with aureomycin, Arch. Int. Med. 88:729, 1951.

18. Soborov, V. M. and Sutherland, D. A.: Fatty liver following aureomycin and terramycin therapy in chronic hepatic disease. Gastroenterology 18:598, 1951.

19. Jawetz, E., Gunnison, J. B. and Coleman, V. R.: The combined action of penicillin with streptomycin or chloromycetin on enterococci in vitro, Science 111:254, 1950.

20. Gunnison, J. B., Jawetz, E. and Coleman, V. R.: The effect of combinations of antibiotics on enterococci in vitro, J. Lab. and Clin. Med. 36:900, 1950.

21. Jawetz, E., Gunnison, J. B., Speck, S. R. and Coleman, V. R.: Studies on antibiotic synergism and antagonism, Arch. Int. Med. 87:349, 1951.

22. McHardy, G., Bechtold, J., Weich, G., and Browne, D. C.: Fumagillin as an amebacide, South. M. J. (in press).

ACTH AND CORTISONE

1. Kinsell, Laurence W.: Application of ACTH and adrenal steroid hormone, Ann. Int. Med. 35:615, 1951.

2. Boling, L., *et als.*: The use of ACTH and cortisone in the management of acute adbominal emergencies, Proc. Assn. for Study of Int. Secr., June, 1951.

3. Smadel, J. E., Ley, H. L., Jr. and Diercks, F. H.: Treatment of typhoid fever: I. Combined therapy with cortisone and chloramphenicol, Ann. Int. Med. 34:1, 1951.

4. Woodward, T. E., *et als*: Treatment of typhoid fever: II. Control of clinical manifestations with cortisone, Ann. Int. Med. 34:10, 1951.

5. Rosenberg, I. N., *et als*: Clinical evaluation of corticotropin therapy, Arch. Int. Med. 88:211, 1951.

6. Kirsner, J. B., Palmer, W. L., Klotz, A. P.: ACTH in severe chronic regional enteritis, Gastroenterology 20:229, 1952.

7. Astwood, E. B., Cleroux, A. P., Payne, R. W., and Raben, M. S.: Therapeutic studies on some newer corticotropic preparations, Bull. New England M. Center 12:2, 1950.

8. Gray, S. J., Reifenstein, R. W., Benson, J. A. and Young, J. C. G.: Treatment of ulcerative colitis and regional enteritis with ACTH, Arch. Int. Med., 87:646, 1951.

9. Machella, T. E. and Hollan, O. R.: Effect of cortisone on clinical case of chronic regional enteritis and chronic idiopathic ulcerative colitis, Am. J. M. Sc. 221:501, 1951.

10. Stanley, M. M., Rosenberg, I. N. and Cleroux, A. P.: The use of corticotropin (ACTH) in the treatment of chronic regional enteritis, M. Clin. N. Am. 35:1255, 1951.

11. Kirsner, J. B. and Palmer, W. L.: Effect of corticotropin in chronic ulcerative colitis, J. A. M. A. 147:541, 1951.

12. Bargen, J. A., Personal Communication.

13. Brown, P. W., Sauer, W. G. and Dearing, W. H.: ACTH in the treatment of regional enteritis, Gastroenterology, in press.

14. Thorn, G. W., *et als*: The clinical usefulness of ACTH and cortisone, New England J. Med. 242:783, 1950.

75. Holmes, J. H. and Perceful, S. C.: Liver function studies during cortisone therapy, Ann. Int. Med. 35:608, 1951.

16. Flink, E. B. and Williams, C. F.: The treatment of chronic liver disease with ACTH, J. Lab. & Clin. Med., 36:822, 1950.

17. Hanger, F. M. and Collins, G. L.: The effect of cortisone on chronic inflammatory diseases of the liver, Tr. A. Am. Phys. 63:272, 1950.

18. Hayles, T. B., Stout, C. F., Stillman, J. S. and Lever, W.: Treatment of scleroderma with adrenocorticotropic hormone. Proc. of 1st Clin. ACTH Conf. 1950, p. 447, The Blakeston Co., Philadelphia.

19. Lunseth, J. H., Baker, L. A., Shifrin, A.: Chronic scleroderma with acute exacerbation during corticotropin therapy. Arch. Int. Med., 88:783, 1951.

20. Bongiovanni, A. M. and Eisenmenger, W. J.: Adrenal cortical metabolism in chronic liver disease, J. Clin. Endocrinol. 11:152, 1951.

21. Webster, J. J.: Adrenal cortex in liver disease, Ann. Int. Med. 33:854, 1950.

22. Rich, A. R., Cochran, T. H. and Nic Goon, D. C.: Marked lipemia resulting from the administration of cortisone, Bull. Johns Hopkins Hosp., 88:101, 1951.

23. Taylor, A. B., Wollaeger, E. E., Comfort, M. W. and Power, M. H.: The effect of cortisone on non-tropical sprue, Gastroenterology 20:203, 1952.

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A PRELIMINARY REPORT ON CLINICAL EXPERIENCES WITH HEXAMETHONIUM AND 1-HYDRAZINOPHTHALAZINE IN THE TREATMENT OF DIASTOLIC HYPERTENSION*

RALPH B. ROMNEY, M. D.
ROBERT H. BULLINGTON, M. D.
J. A. ABILDSKOV, M. D.
C. T. RAY, M. D.
AND
G. E. BURCH, M. D.**
NEW ORLEANS

Since the introduction of hexamethonium chloride (methium)† and 1-hydrazinophthalazine hydrochloride (apresoline)‡, many physicians have employed these drugs in the medical treatment of arterial diastolic hypertension. Most of the early work with the former drug has been done by British physicians; only recently has it received attention in America. The drugs have been used individually,[1-6] alternately,[7] or simultaneously[8, 9] with variable clinical responses. Because of growing interest in the use of these drugs, it was considered advisable to describe preliminary experiences with them in a large general hospital for the indigent, Charity Hospital of Louisiana at New Orleans. Although the patients have not been followed for prolonged periods, it is believed that some of the immediate problems of administration, responses in blood pressure, and side reactions might interest others who plan to employ these drugs under similar clinical conditions. Historic

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**From the Department of Medicine, Tulane University of Louisiana, and Charity Hospital of Louisiana at New Orleans.

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and pharmacologic information is already available in the literature[1-10] and therefore will not be reiterated here.

MATERIALS AND METHODS

The present series included 30 patients from the Charity Hospital, ranging in age from 27 to 67 years. Among them were 22 Negro women, 3 Negro men, 3 white women, and 1 white man. Most of the patients were first observed in the wards of the Charity Hospital, where clinical evaluation of the hypertension was made and a baseline level of the blood pressure was observed. When more experience had been gained in the use of the drugs, the studies were conducted entirely in the outpatient department. Only patients with severe hypertension or severe symptoms were included in this study. A variety of etiologic types was represented. Twenty-four were considered to have benign essential hypertension, 1 had chronic pyelonephritis, 2 had malignant hypertension, 1 had Kimmelsteil-Wilson syndrome, 1 had pre-eclampsia, and 1 had Cushing's syndrome. The blood pressure of the patients varied from 170 mm. to more than 300 mm. Hg. systolic and 100 to 180 mm. Hg. diastolic. All but 2 patients had moderate to severe symptoms related to their disease. Several were in congestive heart failure when the study was initiated. The most common symptoms were headache, dizziness, visual difficulties, palpitation, and symptoms of congestive failure. Most of the patients had been under observation in the outpatient department for several years and had received various forms of medical therapy for hypertension.

The observations before and during therapy included, in addition to the other usual clinical studies, frequent urinalysis, blood urea nitrogen determinations, PSP excretion tests, Fishberg concentration tests, funduscopic examinations and, in selected cases, benzodiozane tests and pyelograms.

Blood pressure determinations were made every four hours with the patient in the supine, sitting, and standing positions for several days prior to and during therapy in the case of the hospitalized patients. Later these patients and those studied only in the clinic were followed in the outpatient department at intervals ranging from two days to two weeks. Blood pressures were always recorded on clinic visits with the patients in the supine and erect positions.

Dosage Schedule.—Initially, the patients were given 250 mg. hexamethonium, orally, every six hours. If the blood pressure failed to decline or decreased only slightly and if toxic side effects did not occur within one to three days, the dose was increased to 250 mg. every four hours, then to 500 mg. every six hours, then to 500 mg. every four hours, thus increasing the total daily dosage gradually by decreasing the interval between doses or increasing directly the size of the dose. This was usually continued until the blood pressure reached a desirable level or until toxic manifestations developed. The maximal dosage reached was 1750 mg. every four hours. Usually when the dosage of hexamethonium reached 750 to 1000 mg. every four hours without satisfactory blood pressure response, 1-hydrazinophthalazine was added in doses of 25 mg. every six hours. This was increased up to 100 mg. every four hours if necessary. This drug was not used alone, nor was hexamethonium used parenterally in this series.

Since these patients were ambulatory, the blood pressure in the standing position was employed as the guide of dosage level. The blood pressure was reduced slowly, and, by increasing the dosage gradually, every effort was made to avoid serious postural hypotension. No particular attempt was made to reduce the blood pressure to normal levels immediately, although this occurred in several instances. No placebo therapy was used in these studies.

RESULTS

Results of treatment with these antihypertensive agents were evaluated from the effect on blood pressure, as well as other signs and symptoms, and from laboratory data. Table 1 summarizes the changes in

	BLOOD PRESSURE RESPONSE			
	Good	Good response with escape	Fair	Failure
"Adequate" treatment	15 (50%)	4 (13%)	2 (7%)	2 (7%)
"Inadequate" treatment		2 (7%)	1 (3%)	4 (13%)

the blood pressure and Table 2 the symp-

	SYMPTOMATIC RESPONSE			
	Good	Moderate	No change	Worse
"Adequate" treatment	13 (43%)	5 (17%)	6 (20%)	0
"Inadequate" treatment	1 (3%)	2 (7%)	3 (10%)	0

tomatic response. The effect on blood pressure was considered good if the level returned to normal, fair if there was a definite decline but not to normal, and a failure if there was little or no change. Adequate therapeutic trial was considered to have been achieved in a given patient if there was a satisfactory blood pressure response with the patient erect or if significant toxic side effects necessitated discontinuance of the drugs. If the drugs were not administered to this extent, the therapeutic trial was considered inadequate.

Of the 30 patients, 6 (20 per cent) were classified as failures with the dosage employed. However, in 4 of these the drug could have been administered in larger doses. In 3 (10 per cent) the blood pressure response was considered fair, and there was at least an initial good response in 21 (70 per cent) of the patients. In 6 of these 21 patients, the blood pressure returned to hypertensive levels and they were, therefore, finally classified as failures. Thus, in 6 (20 per cent) of the 30 patients there was definite failure to control blood pressure with dosage considered adequate in these studies. In addition, there were 6 (20 per cent) other patients in whom blood pressure was not controlled but these did not receive "adequate" doses. Two of these patients had a good response initially. This tendency for the blood pressure to rise after an initial good response while the patient continued to receive the same or a larger dose of the drug occurred frequently. In all patients followed more than four months the blood pressure returned to hypertensive levels, although some maintained definite symptomatic improvement. Thirteen patients had good symptomatic improvement and 6 exhibited moderate improvement (Table 2). There was no evidence of significant change in the symptomatic status in 6 patients.

There was a striking difference in reactivity to hexamethonium among the patients. In some patients a satisfactory fall in blood pressure was obtained with the initial 250 mg. dose. In one instance even this dose produced an excessive orthostatic hypotension, and the dose was consequently reduced to 125 mg. Dizziness and faintness were present to some degree in about half the patients but were not necessarily always due to the drugs. All patients with severe orthostatic hypotension had associated severe dizziness. Occasionally, dizziness was prominent even when orthostatic hypotension was not present. No unfavorable renal or cardiac responses were noted in these patients.

The "toxic" effects of hexamethonium were those due to orthostatic hypotension and constipation. The latter symptom was controlled easily with mild laxatives. The most distressing side effect from 1-hydrazinophthalazine was headache. Rarely was it possible to increase the dose of this drug above 50 mg. every four hours without the occurrence of this symptom.

It is not possible to present in detail results of treatment of the 30 patients with these two drugs. Figures 1 and 2 summarize the response in 2 illustrative patients. Response to hexamethonium alone, the complementary action of 1-hydrazinophthalazine, and the usual prompt return of the blood pressure to hypertensive levels whenever the drugs were omitted are indicated in these figures.

DISCUSSION

Since two new drugs were being investigated, it was decided to begin their trial on patients who had failed to respond to other forms of medical antihypertensive therapy. Only patients with advanced disease were employed in this study, and for this reason the results cannot be interpreted to indicate the response to be expected in patients with mild or early disease. It seems reasonable that the best results would occur in the latter cases. Furthermore, the patients in this series did not receive additional therapy which has been advocated for hypertension, such as low sodium diets or other drugs. It is our opinion that atten-

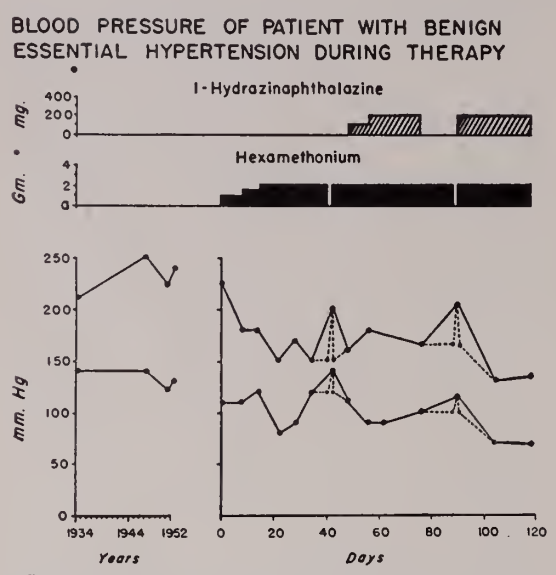

Figure 1. The blood pressure response of a 52 year old colored male with known hypertension for eighteen years prior to therapy is shown in this figure. Representative blood pressure values during this period are shown on the left. On two occasions during therapy the patient omitted the drugs for short periods and in each instance a marked rise in blood pressure occurred. The points representing actual measurements of blood pressure are connected by solid lines, but the probable course of the pressure during the time medications were not taken is indicated by the dotted lines.

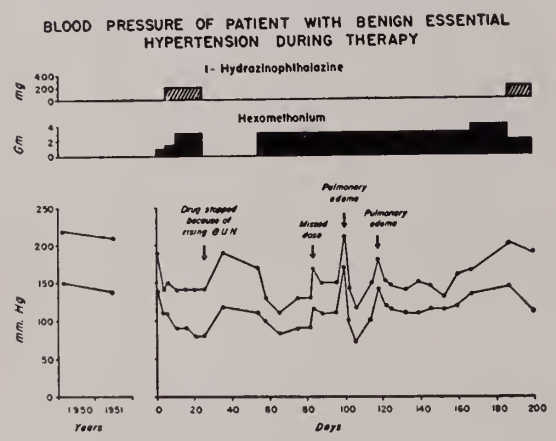

Figure 2. The blood pressure response of a 34 year old colored female with known hypertension for two years prior to therapy is shown. Representative values of the blood pressure during these years are shown on the left. The blood urea nitrogen rose to 30 shortly after hexamethonium was begun, but did not fall when therapy was discontinued, and did not rise further even though therapy was re-instituted. Note that two episodes of pulmonary edema accompanied by elevation of the blood pressure occurred while hexamethonium was being administered and that the "escape" occurred despite continued medication.

tion to psychic and physical factors, sodium intake, special dietary regimen and physical and mental relaxation should be employed in association with these drugs for best results.

There were certain shortcomings in these studies which are worthy of note. In the outpatient department no attempt was made to record the blood pressure at a fixed interval after drug administration. This might explain some of the variations in blood pressure noted. Furthermore, though not a disadvantage from the therapeutic point of view, no attempt was made to record blood pressure except on clinic visits. One of the major deficiencies in this preliminary study is the brief period of observation. This is of special importance, since in all patients who were observed longer than four months there was a return of the blood pressure to hypertensive levels, even though the drugs were continued. It is, therefore, likely that many of the 15 patients listed as still showing a good response may become "failures."

Dosage levels in this study were not maximal, due primarily to the fact that optional dosage levels have not been established. Therefore, the classifications, "adequate" and "inadequate" treatment, are entirely arbitrary. Furthermore, the most desirable criteria for determining dosage remain unknown and until these are established, the use of these drugs will suffer limitations.

In these trials an attempt was made to reduce blood pressure to levels considered to be at the upper limits of normal with the patient in the erect position. In order to eliminate difficulties due to postural hypotension, we employed the standing, and not the supine, blood pressure as a guide. In some instances there was a return to normal pressure levels in both positions without the occurrence of postural hypotension. In others hypertension was maintained in the supine position, even though standing pressures were normal. It is possible that even the reduction of blood pressure during the ambulatory period alone is desirable, but this point requires validation.

The relief of symptoms was a prominent result of these trials. Since placebo therapy was not employed, it is not possible to evaluate properly the role of the drugs in

symptomatic relief, although this tended to vary directly with the decline in blood pressure. However, in some instances in which blood pressure did not change symptoms abated.

Since these two drugs apparently offer some promise in the management of diastolic arterial hypertension of varied etiology, it is believed that they should be given a trial. Because of the tendency of patients in this series to acquire a tolerance to the drug with return of blood pressure to hypertensive levels, it may be desirable to increase the dose to levels greater than those used in these studies. Furthermore, it is advisable to employ additional procedures in the treatment of hypertension, such as low sodium intake, mental and physical rest, reduction of overweight and other therapeutic procedures which have proved to have some value in the past. As used in these studies, these drugs failed satisfactorily to control advanced diastolic arterial hypertension in a significant number of patients. It would appear that they may have a greater promise in patients with earlier and less severe stages of the disease. Finally, these drugs should be included in the therapeutic regimen after the generally accepted procedures have been tried adequately and found to be unsatisfactory. The drugs may prove to be of greatest value in the treatment of acute hypertensive syndrome, except those due to pheochromocytoma, in which case their use might be dangerous.

SUMMARY

Clinical trials of hexamethonium and of a combination of hexamethonium and 1-hydrazinophthalazine have been made on a series of 30 patients with severe diastolic hypertension. The studies were carried out on the wards and in the outpatient department of a large general hospital. The patients were followed for periods of one to seven months.

In general, there was an initial fall of blood pressure, but the observation period has not been sufficiently long to indicate eventual benefit. In all patients followed for more than four months blood pressure has returned to hypertensive levels despite continued therapy. However, in some cases this may have been due to inadequate therapy. In some instances the addition of 1-hydrazinophthalazine effected a fall in blood pressure when hexamethonium alone failed to do so. The former drug was not used alone in this study. Blood pressure reduction and symptomatic relief tended to occur simultaneously, but in some instances symptomatic relief occurred without a change in blood pressure. It appears that these drugs will have at least a temporary place in the management of hypertension, but optimal dosage and criteria for selection of patients are not yet entirely evident.

REFERENCES

1. Campbell, A. and Robertson, E.: Treatment of severe hypertension with hexamethonium bromide, Brit. M. J. 2:804, 1950.

2. Restall, P. A. and Smirk, F. H.: The treatment of high blood pressure with hexamethonium iodide, New Zealand M. J. 49:206, (June) 1950.

3. Finnerty, F. A. and Freis, E. D.: Experimental and clinical evaluation in man of hexamethonium, a new ganglionic blocking agent, Circulation 2:828, (Dec.) 1950.

4. Smirk, F. H.: Methonium halides in high blood pressure, Science 114:4, (July 6) 1951.

5. Smirk, F. H.: Blood pressure reduction to selected level by continuous injection of methonium halides and use of electrically operated syringe, Am. Heart J. 42:530, (Oct.) 1951.

6. Freis, E. D. Finnerty, F. A., Schnaper, H. W. and Johnson, R. L.: The treatment of hypertension with hexamethonium, Circulation 5:20, (Jan.) 1952.

7. Johnson, R. L., Freis, E. D. and Schnaper, H. W.: Clinical evaluation of 1-hydrazinophthalazine in hypertension with special reference to alternating treatment with hexamethonium, Circulation 5:833, (June 17) 1952.

8. Schroeder, H. A.: The effect of 1-hydrazinophthalazine and hexamethonium on hypertension, (Abstract) J. Lab. & Clin. Med. 38:949, (Dec.) 1951.

9. Schroeder, H. A.: Control of hypertension by hexamethonium and 1-hydrazinophthalazine, Arch. Int. Med. 89:523, 1952.

10. Paton, W. D. M. and Zaimis, E. J.: Clinical potentialities of certain bisquaternary salts causing neuromuscular and ganglionic block, Nature 162:810, (Nov. 20) 1948.

RECENT ADVANCES IN CANCER DIAGNOSIS*

RUTH M. SHUSHAN, M. D.

NEW ORLEANS

Today, in our phase of medical history, cancer is still one of our paramount problems. Today, while other methods of therapy are in the research stage, the surgeon and radiologist are clamoring, "Send us the early cases." Today, when early surgery and radiation offer the only therapeutic ap-

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proaches, it behooves us to utilize every possible diagnostic means to discover the early cases of cancer. It should not be necessary to pore through the fine print of obscure journals for new diagnostic measures. These should be shouted from the medical housetops, and the glad news received with open arms. But often in our preoccupation with other matters, we fail to recognize a nugget when we see it.

The unreliability of the present serodiagnostic methods is becoming an old story. Hill, Stowell, and Mulford[1] evaluated four serodiagnostic tests and found them all wanting. Excluding serodiagnosis, there are two recent diagnostic methods to report, one of which seems to hold definite promise.

From the Sloan-Kittering Institute and Cornell Medical College comes a microfluorometric method[2] for the detection of cancer cells in smears of exfoliated cells. The principles involved in this study are as follows:

"1. Cells obtained from tissue secretions and spread on miscroscope slides are stained with a basic fluorochrome under conditions that favor selective combinations of the dye with chemical constituents that are located principally in the nucleus of the cell. Each cell when illuminated with long-wave ultraviolet radiation then acts as a self-luminous body.

2. Cancer cells relative to normal cells derived from the secretions of certain anatomical sites, such as the cervix uteri, combine with more fluorochrome and emit on the average per unit area twice the fluorescent light of normal cells.

3. The light energy derived from a tissue cell is converted by a photocell into electrical energy. This in turn is analyzed in terms of its ability to activate an electronic counting circuit that is set to respond to a certain voltage input and to register automatically thereby, the presence of certain types of cells, e. g., a cancer cell as differentiated from a normal cell."

This is an attempt to develop a quantitative, and ultimately an automatic method of screening of smears for the presence of cancer cells. If further studies prove successful, the human screener will be eliminated from the cytologic diagnostic method. This fluorometric procedure has the disadvantage of utilizing costly electric apparatus that few laboratories can afford.

The second, and probably the more valuable recent advance in cancer diagnosis, involves the use of the gastric balloon, first described by Panico, Papanicolaou, and Cooper,[3] in 1950. Before the use of the balloon, about one third of gastric cancers could be diagnosed by cytologic smears from routine aspiration and washing using the Levin tube. It was thought that better diagnostic material might be obtained by mechanical irritation of the gastric mucosa. The apparatus consists of a double lumen tube, one side for aspiration and washing, the other for inflation of the balloon which is at the distal end of the tube. The original balloon was made of a condom, to whose external surface had been tied approximately 250 pieces of braided silk. This has been recently simplified by covering the balloon with a net made of ladies' silk hat veil. After the stomach has been aspirated and washed with Ringer's solution, the balloon is inflated and pulled from the pylorus toward the cardia. The balloon is then deflated and the performance repeated four or five times. After the apparatus is removed, the balloon is immediately immersed in a mixture of Ringers solution and 95 per cent alcohol, half of each. The balloon is shaken until all of the material has dropped from the net. The solution is then centrifuged and the sediment fixed and stained by the method of Papanicolaou. Results of the first 150 cases of this study were reported by Cooper[4] at the June meeting of the American Medical Association. In the first 150 cases, the balloon method showed an over-all accuracy of 98 per cent. The latest statistics on 200 cases from Cornell analytically show an accuracy of 97.5 per cent with a false negative error of 13 per cent. This means that in 38 cases in which cancer was present, the balloon failed to pick up 5 cases. The case types in which the balloon fails to pick up malignant cells are scirrhous carcinoma, lymphosarcoma, malignancy deep in the antrum where the balloon cannot reach, and cases in which the malignancy is covered by a necrotic membrane. There were no false positives in Class V, and only 1 questionable false positive in Class IV. This case is still under observation.

Panico,[5] in 1952, describes an "improved abrasive balloon" for diagnosis of gastric cancer. His apparatus consists of a single lumen tube and a balloon with small pieces of foamed latex rubber glued to the external surface. This balloon must be discarded after every case. The labor involved in the manufacture of such a balloon before it becomes commercially available is exorbitant. This method also has the disadvantage of having no provisions for disposing of gastric contents and mucus, which can be most annoying in the preparation of specimens. Only time and experience will tell whether or not Panico's "improved balroon" is an improvement.

The author and Dr. Morris Shushan are at present running a series using the double lumen balloon with silk netting. Although the series is very small at this point, the results have been both interesting and encouraging.

Ochsner and Blalock,[6] in a recent paper on carcinoma of the stomach, deplored how few cases coming to surgery were resectable. They have advocated surgery on the basis of gastric symptoms only, especially in a man who has had no gastric symptoms previously. "It is our firm belief that if we are to improve the results obtained in the treatment of gastric cancer, we must treat the lesion before it can be diagnosed according to our present clinical methods." If the abrasive balloon can continue to pick up such a high percentage of positives in early cases, this diagnostic aid should be a considerable boon to the surgeon.

In conclusion let me say that alertness for new diagnostic methods and the utilization of these methods are imperative if we are to aid in improving the present unfortunate survival rates.

REFERENCES

1. Hill, J. H., Stowell, R. E., and Mulford, D. J.: An evaluation of four cancer serodiagnostic tests, Cancer 5:13, 1952.

2. Mellors, R. C., Glassman, A., and Papanicolaou, G. N.: A microfluorometric scanning method for the detection of cancer cells in smears of exfoliated cells, Cancer 5.458, 1952.

3. Panico, F. G., Papanicolaou, G. N., and Cooper, W. A.: Abrasive balloon for exfoliation of gastric cancer cells, J. A. M. A. 143:1308, 1950.

4. Seybolt, J. F., Papanicolaou, G. N., and Cooper, W. A.: Cytology in the diagnosis of gastric cancer, Cancer 4:286, 1951.

5. Panico, F. G.: Improved abrasive balloon for diagnosis of gastric cancer, J. A. M. A. 149:1447, 1952.

6. Ochsner, A., and Blalock, J.: Carcinoma of the stomach, New Orleans M. & Surg. J. 104:1185, 1952.

7. Cooper, W. A., and Papanicolaou, G. N.: The balloon technic in the cytologic diagnosis of gastric cancer, Delivered at A. M. A. meeting June 1952.

8. Papanicolaou, G. N.: Personal communication.

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PLASMA AND ANTITHROMBIN DETERMINATIONS IN ACUTE AND CHRONIC PANCREATITIS

Acute pancreatitis, as most experienced clinicians will admit does not follow a consistent symptom pattern. It presents a variable symptom complex. It is rarely possible to make a diagnosis of acute pancreatitis solely by bedside examination. Its recognition has become more frequent in recent years as the result of the determinations of serum enzymes and lipase.

In several recent articles, Innerfield and associates have reported determinations of the antithrombin titer as an aid in diagnosis and prognosis. While investigating experimentally trypsin-induced alterations in antithrombin levels in dogs, a syndrome containing many features of acute pancreatitis was produced. In association with this, a remarkable and consistently demonstrable rise in antithrombin titer was found. Subsequently, antithrombin levels were studied in proven clinical cases of acute pancreatitis, in patients with various diseases, with diagnoses of acute abdomen, and in controls. These antithrombin level determinations were made in a series of 659 patients. In 150 normal controls there were no elevations in the antithrombin titer. Three of 150 ambulatory patients, suffering from various diseases, yielded distinct elevations in the antithrombin titer (2 per cent). In 97.3 per cent of the third group of 304 patients, diagnosed "acute surgical abdomen," the antithrombin titers were entirely normal. In 50 of 55 patients (90 per cent) with acute pancreatitis an elevated and strongly positive result was obtained. The elevated antithrombin titer was determined at intervals varying from three hours to two weeks following the onset of symptoms of acute pancreatitis. Innerfield noted the remarkable correlation between the actual clinical course of the

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Innerfield, Irving: Acute pancreatitis: The antithrombin titer as an aid in diagnosis and prognosis, New York State J. Med. 52:2239, (Sept. 15) 1952.

Bockus, H. L., Bogoch, A., and Roth, J. L. A.: Acute pancreatitis: Diagnosis and treatment, South. M. J., 46:388, (April) 1953.

disease and the antithrombin titer. A fall in the antithrombin titer could be correlated with the degree of clinical improvement. The data indicate that antithrombin determinations provide valuable aid in establishing the diagnosis, clinical evaluation, and prognostic index.

The value of antithrombin determinations is further increased by its use for any stage of the disease. The serum amylase is most dependable in the first twenty-four hours. The serum lipase probably is most dependable in the first three days. In addition, it is worthy of note that the antithrombin determination can be performed after refrigeration of the plasma. The reagents are simple and stable and highly specific for acute pancreatitis. In contrast, the serum amylase determination must be performed shortly after the serum is obtained; the reagents are unstable and the test may be positive in intestinal obstruction, renal disturbance, uremia, peritonitis and parotitis.

Bockus, Bogoch and Roth report that occasionally in patients in whom there is no clinical evidence of pancreatic disease, one may obtain elevations in serum amylase or lipase within the range of values obtained in primary acute pancreatitis, if the blood is drawn within five hours after injection of morphine. Furthermore, slight increases in enzyme concentration may persist as long as twenty-four hours. This consideration complicates the interpretation of the results of serum amylase and lipase determinations in patients who have received an injection of an opiate. False positives for antithrombin determinations have not been reported after injection of an opiate.

The use of antithrombin determinations is also suggested by Innerfield for the diagnosis of chronic relapsing pancreatitis. In this condition, diagnosis is obscure between attacks. It is prone to be confused with primary gastrointestinal or gallbladder disturbances. Innerfield suggests the injection of 1 cc. of 1:2,000 prostigmin, subcutaneously, followed by the determination of the antithrombin titer in the plasma one hour later. This postinjection antithrombin titer is compared with that of a fasting control sample obtained prior to the injection of prostigmin. Innerfield regards the pronounced rise following prostigmin as prima facie evidence of intrinsic pancreatic inflammatory disturbance.

The antithrombin test has been reported as being of value in traumatic pancreatitis, chemical pancreatitis, and pancreatitis secondary to various other conditions in the upper abdomen, and inflammatory processes such as may develop within the pancreas by extension or trauma. The mechanism for the development of abnormal antithrombin titer has been a subject for speculation and it was suggested in the discussion of the paper that trypsin in the blood or tissue apparently produces a breakdown of tissue protein, which in turn stimulates the production of antithrombin. Innerfield suggests that the shocklike manifestations of acute pancreatitis may be anaphylactoid in nature, in which the antigen is trypsin and the antibody is antithrombin. As in many diseases in which the symptom complex may be equivocal, the first prerequisite to diagnosis of acute pancreatitis is awareness of the possibility that the condition may exist. By the addition of the antithrombin determinations to the amylase and lipase tests the clinician is provided with valuable assistance in differentiating the disorders of the upper abdomen.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

DR. WILLIAM EDWARD BARKER, JR.
President
1952-1953

A busy man is a competent man and during the past year the Louisiana State Medical Society has had for its leader one of the most energetic and capable presidents in the history of the organization. His interest in all matters pertinent to Medicine, from the standpoint of the layman as well as the doctor, has been the motivating force in all of his endeavors. He has served well and it is felt that much has been accomplished during his tenure of office.

Dr. Barker, son of Dr. William Edward and Olive Gassie Barker, was born in Plaquemine, Louisiana, the town in which he has practiced Medicine since graduating from Tulane University School of Medicine in 1917 and subsequent to serving an internship at Charity Hospital in New Orleans. Needless to say, in this community he is considered one of the outstanding citizens as a professional, civic and religious leader. He has served as examining physician of the Draft Board and chairman of Procurement and Assignment for his parish, has been president and secretary of both the Iberville Parish and Sixth District Medical Societies, a member of the Iberville Parish School Health Committee, the Louisiana Tuberculosis Commission, and chairman of the Louisiana State Board of Institutions; is a member of the Knights of Columbus, Sigma Nu, and Phi Beta Pi Fraternities, and former president and secretary of the Rotary Club; and Trustee of St. John's Catholic Church.

After serving his internship at Charity Hospital in New Orleans he was appointed a member of the visiting staff of the hospital for 1919-20 and concurrently served with the surgical clinic at Touro Infirmary in New Orleans, taught physiology in the Dental School of Loyola University and was associated with the Child Welfare Association. During the first World War he served as 1st Lieutenant in the Medical Corps of the U. S. Army.

He was a member of the Council of the State Society, representing the Sixth Congressional District from 1944 through 1950, is a Fellow of the American College of Surgeons, Fellow of the International College of Surgeons, member of the American Medical Association, Southern Medical Association, Southeastern Surgical Association and Surgical Association of Louisiana.

The members of the Louisiana State Medical Society are indeed indebted to Dr. Barker for the loyal service rendered during past years and there can be assurance that such loyalty, interest and enthusiasm will be continued in striving to improve the health of this state and nation.

REPORT OF PRESIDENT

During the past several years our efforts have been directed against Socialism and particularly the socialization of medicine. Even though the new administration seems friendly to our cause, we must nevertheless be on the alert to catch any back or side door approaches to the same end. Medical needs and the medical care of our people seem to have captured the public interest. The care of the sick, and particularly the indigent sick, appears to be the number one subject of conversation and planning today. There are many "do gooders" in no sense of the word socialistically inclined, who would, with the best intentions, support laws which we on the inside of Medicine know to be quite detrimental to our cause and unwittingly to theirs. This would eventually lead to possible socialization and the regimentation of the practice of medicine. These people are motivated by high ideals and are usually those of high character or purpose. They are prompted by experiences either in their own families or those of friends in which someone was thought to have suffered or become invalided because sufficient medical care did not produce the desired result. We, of Medicine, know in most cases that these unhappy results were in no sense due to lack of medical care or due to inadequate medical service; they were caused by the inability of modern scientific medicine to work miracles and give them the desired remedy or cure. These good people are usually quite vocal and present their thesis in glowing terms which are absorbed by the masses who are ill or poorly informed on the true nature of disease processes.

Organized medicine has a great role to play in this drama. Like Caesar's wife, we should be beyond suspicion, but are we? Medicine during these changing times is on trial. From the beginning of recorded history, the man of medicine, the physician, has always been held in high esteem. In savage tribes the medicine man commanded the fear, if not the respect, of the tribal chieftain as well as the tribesmen. With the dawn of true scientific medicine in the latter years of the nineteeth century, the doctor was the man of the community, friend, counsel and physician—the host who greeted our arrival into this world and the solicitous physician ministering to our every need during our final hours. Has the march of scientific progress dulled this shining example of Christian charity, and human affection? I am afraid it has. Unquestionably medical knowledge and scientific advancement in the conquest of disease had made enormous strides during the past half century. People are cured of former deadly diseases by simple remedies in a short time and many erstwhile fatal diseases are prevented by prophylactic means. With the march of progress in scientific medicine, medical men have lost or neglected the Art of Medicine so important in maintaining our own high position in society and in comforting the miseries and fears of our people.

The Art of the Practice of Medicine, the intimate knowledge and insight into the particular problems and difficulties of friendly patients has suffered a severe setback during this march of progress and might be considered one of the reasons why American Medicine finds itself in difficulty today. If we are to maintain the high position that civilizations in the past have accorded us, we must put our own house in order. There should be not the slightest taint of commercialism in our patient-doctor relations. There should be a renaissance in the Art of the Practice of Medicine, a rebirth of the doctor in the role of family counselor and confidant. The old family doctor's heart in the body of the new scientifically trained physician—what a wonderful thought! The man of medicine of today with his excellent training and the wealth of remedies at his disposal to ameliorate the suffering and cure the ills of his patients coupled with the demeanor, sympathetic understanding, solicitude and love for them as of old, could have the world at his feet. Achieve this amalgamation and the trials and tribulations that beset American Medicine today will dissolve into thin mist and quietly fade away.

The present State Administration has been most cooperative with organized medi-

cine. Many of the complaints registered by members of the Society against the conduct of our state hospitals, and the methods of admission of patients have been remedied; other changes suggested by special committees are being studied at this time and a solution satisfactory to us will be worked out.

The perennial Chiropractic Bill again presented itself at the past session of the legislature. There seemed to be considerable support from certain quarters but it was killed in committee as usual. This cult is gradually stepping up the intensity of its drive for recognition in Louisiana. It would be well for us to note this fact, in order that our opposition might be geared to meet the increasing intensity of their onslaughts. This is the fight of all members of Medicine and the legislative committee should receive the active, militant support of every one of us. Only with this active cooperation will we be able to crown our efforts with success.

The Society has had many problems of varied sorts to deal with during the past year. Your officers and committeemen worked hard and long on most of them and hope that the solution is satisfactory to the majority. The good of the Society and organized medicine was the paramount thought which guided us through all these deliberations and actions.

Visits were made by the president to many sections of the state. Societies were visited. Due to conflicting dates and previous engagements, quite a few invitations could not be accepted. A protracted illness curtailed activities for nearly two months. This was regrettable, but unavoidable.

The LPS has consumed considerable time and effort. This has been a source of apprehension and worry for the past few years. It is thought at this time that a solution satisfactory to the Society has been found, and we hope that we will not have cause to regret the action at some future date.

Other activities of the office have had to do with the national bodies associated with Medicine; Red Cross, Cancer Society, Polio, Crippled Children and others. Our association with these organizations continues on a quite cordial basis. The practical nurses' educational program was studied at a meeting with its planning board. The program seems to be progressing nicely and happy medical relations are maintained.

The AMA conventions in both Chicago and Denver were attended. Much valuable information was gathered and subsequently used in the conduct of the affairs of the state. Our delegates, Dr. J. Q. Graves and Dr. Val Fuchs, are well thought of in the national House of Delegates and were invaluable in arranging conferences with the proper men of the AMA.

The AMA Regional Conference on Physician Placement Service was attended in Memphis. Many pertinent suggestions were presented in the interest of doctors seeking placement and communities seeking doctors. The importance of this activity as a prominent phase of Public Relations was stressed.

It has been a pleasure to serve you as president during the past year. Many difficult problems have been handled, and always with the interest of the Society as a whole as the guiding principle. The cooperation of the committeemen and officers has been all that could be desired. I want to express my special thanks to our genial and efficient secretary, Dr. C. G. Cole, without whose help and advice the office of president would have been a heavy burden. Among others whose help and advice have been greatly appreciated are: Dr. P. H. Jones, Dr. A. V. Friedrichs, Dr. E. L. Leckert, Dr. Roy Harrison, Dr. E. L. Zander, Dr. George Wright, and Dr. Robyn Hardy. These men have been of immeasurable help. Please accept my sincere thanks. The efficient office force, and particularly Miss Annie Mae Shoemaker, deserves special mention for the pleasant cooperative manner which makes office chores seem pleasant. This report would be incomplete if it did not acknowledge the words of wisdom that at odd times come over the telephone from that old sage, Dr. Tim Talbot, Secretary-Treasurer Emeritus. To all these men-

tioned, and the host of other silent workers for the common cause, thanks for your splendid cooperation and good will.

RECOMMENDATIONS

1. All Special Committees be continued.

2. The time and place of meeting of the State Society be scheduled three years in advance.

3. The name of the Grievance Committee be changed to comply with recommendations of the American Medical Association.

4. No corporation, affecting the moral or financial responsibility of our members be organized unless it be controlled, as is the State Journal, by the Society.

William E. Barker, Jr., M. D., President

LOUISIANA STATE MEDICAL SOCIETY NEWS

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Morehouse	Third Thursday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

Dr. James Q. Graves and Miss Beverly Mitchell, nurse

LOUISIANA'S GUEST OF HONOR AT WORLD MEDICAL EVENT

Dr. James Q. Graves, Monroe surgeon, confers in his office with Miss Beverly Mitchell, nurse. By designation of Governor Robert F. Kennon, he will represent Louisiana at the First Western Hemisphere Conference of the World Medical Association in Richmond, Va., April 23-25, 1953. Along with physicians from 47 other states who are 75 years old this year, Dr. Graves will be honored by leaders of the medical societies of the United States and Latin America.

Medicine's greatest advances will be commemorated by the conference. Dr. Graves names as the ten most important advances he has witnessed: identification of various disease germs, new immunization techniques, aseptic surgery techniques, discovery of disease transmission by insects as in yellow faver and malaria, discovery and development of x-rays, blood and plasma transfusions, knowledge of vitamins, intravenous therapy, new chemotherapeutic drugs and improved anesthesia. In commenting on medical progress during the past 50 to 75 years, Dr. Graves said: "With a good anesthesist, the judicial use of blood, a conservative and well-trained surgeon may perform a miraculous operation. We can now spend from two to six hours or longer with safety in performing a delicate and tedious operation, without endangering the life of our patient." Conference costs are covered through a grant by A. H. Robins Co., Inc., pharmaceutical manufacturers on its diamond anniversary.

ANNUAL MEETING OF THE AMERICAN THERAPEUTIC SOCIETY

The Annual Meeting of the American Therapeutic Society will be held in the Hotel Biltmore in New York City on May 28-31, 1953.

Outstanding in the program is a Symposium on Tobacco, followed by a round table discussion, with Dr. Arthur DeGraff of New York as moderator.

In addition are two symposiums, "Recent Advances in Medicine" by Dr. O. P. J. Falk, St. Louis, and "Recent Advances in Surgery" by Dr. W. Wayne Babcock, Philadelphia.

One entire day will be devoted to new items in the therapeutic armamentarium.

Guests are welcome to attend these scientific sessions.

COURSE IN POSTGRADUATE GASTROENTEROLOGY

The National Gastroenterological Association announces that its Fifth Annual Course in Postgraduate Gastroenterology will be given at the Hotel Biltmore in Los Angeles, Calif. on 15, 16, 17 October 1953.

The Course will again be under the direction and co-chairmanship of Dr. Owen H. Wangensteen, Professor of Surgery of the University of Minnesota Medical School, who will serve as surgical co-ordinator and Dr. I. Snapper, Director of Medical Education, Cook County Hospital, Chicago, Ill., who will serve as medical co-ordinator.

Drs. Wangensteen and Snapper will be assisted by a distinguished faculty selected from the medical schools in and around Los Angeles whose presentations will cover all phases of gastrointestinal diseases and problems.

One complete session will be devoted to a Clinic at the College of Medical Evangelists at Loma Linda.

For further information and enrollment write to the National Gastroenterological Association, Department GSJ, 1819 Broadway, New York 23, N. Y.

HARTFORD DOCTORS CURB EXCESSIVE FEES

Hartford (Connecticut) County's 867-member medical society recently adopted a new by-law which is aimed at curbing doctors who try to saddle patients with exorbitant charges.

The Hartford Times, reporting the society's action, said:

"The move is another step by the public relations-conscious organization to strengthen the position of the profession with the public by imposing shackles on any who might tear down public confidence through gross overcharging. It is believed to be the first of the state's eight county medical societies to give its officials such broad powers."

The newspaper said that the county society amended its by-laws to give the committee on medical ethics and department a strong weapon to "police" its ranks in matters of overcharging.

One provision of the by-law is that the committee can call in three impartial doctors who are specialists in the field involved and get their advice on the reasonableness of fees for service given.

NO MAGIC FOODS WILL PRODUCE SUPER ATHLETES

There are no magic foods which will produce super power or agility in athletes.

Feeding an athlete is basically no different from feeding an average citizen, it was stated in an article in a recent (March 7) Journal of the American Medical Association. The article was prepared in cooperation with the A.M.A.'s Council on Foods and Nutrition.

"In order to obtain the energy and dexterity ne-

cessary for a winning team week after week, an adequate diet is essential not only on days of a game, but every day," it said.

"The same meat, milk, eggs, vegetables, fruits, enriched and whole grain breads and cereals that are fundamental to the health of every person are needed by the athlete.

"Good nutrition is not the sole solution to producing a winning team, but attractive, nourishing food in the right amount is an important step in that direction."

ARALEN IN RHEUMATOID ARTHRITIS

Aralen diphosphate, the drug of choice in combatting malaria, now has been found an effective therapeutic agent in the treatment of rheumatoid arthritis, Dr. George Gregory Haydu, consultant-in-arthritis, Huntington Rehabilitation at Huntington, Long Island, states in the *American Journal of the Medical Sciences* (Vol. 225, No. 1, Jan. 26, 1953).

He reports results of a six-months' study using Aralen, and describes a view of rheumatoid arthritis which finds biochemical rationale for the use of Aralen, cortisone, gold and other anti-rheumatic compounds. The aim of therapy, according to Dr. Haydu, is to "reduce the high effort level of the tissues of rheumatic patients, especially for adenosintriphosphate (ATP)," which with a simultaneous lack of hormonal support is called the basis of the arthritic condition.

CAMOQUIN CLEARS MALARIA WITH SINGLE DOSE

A single dose of Camoquin, dihydrochloride dihydrate, cleared a large number of heavily-infected cases of malaria in soldiers within two days, two Indian Army physicians have reported.

Drs. Inder Singh and T. W. Kalyanum of the Indian Army Medical Corps wrote in the British Medical Journal (4779:312, 1952) that the Parke, Davis & Company product proved superior to all other antimalarials in extensive clinical tests. They said that in benign malaria the average duration of fever was 24 hours after administration of Camoquin and 33 hours in malignant malaria. All parasitaemia cleared within 48 hours.

BOOK REVIEWS

Physical Diagnosis; by Ralph H. Major, M. D., 4th ed. Philadelphia, W. B. Saunders Company, 1951. pp. 446, illus. Price $6.50.

It is probably difficult these days to write a textbook on physical diagnosis when exciting and spectacular laboratory determinations compete for the interest of the student. Dr. Major has succeeded in doing this in the fourth edition of the standard work. It maintains the quality of the first edition and is noteworthy in two respects: It continues to emphasize that physical signs are produced by physical phenomena which must be understood and it weaves constantly throughout the fabric of presentation the historical background for physical signs. It is interesting that the author has chosen not to incorporate roentgenograms and electrocardiograms into the text, leaving those to be presented in separate books as diagnostic entities. It is even more entertaining to note that the student is repeatedly made aware of how, where, when and by whom each diagnostic procedure originated.

Designed particularly for the medical student beginning his clinical career, this work accomplishes its objectives. The student who pursues the systematic physical examination portrayed by Dr. Major will learn to use only those physical maneuvers which have stood the test of time and will help him properly perform a physical examination, even today, the basis of all intelligent diagnosis.

SYDNEY JACOBS

The Oculorotary Muscles; by Richard C. Scobee, M. D., 2nd edition, St. Louis, C. V. Mosby Co., 1952. pp. 512. Price $11.00.

The first edition of Dr. Scobee's volume in 1947 was warmly received as an important contribution to ophthalmic literature. It expressed extremely well the ideas of one school of thought on the extraocular muscles. In addition, it accomplished a prime objective in leading the student along paths of clear thought, "through a maze of apparently inconsequential and often confusing clues to the inevitable solution" of the mysteries of the offending muscle or muscles.

To a total of 359 pages in the first edition, 153 pages have been added to the second. Forty-seven new illustrations have also been included in the new total of 159 and several points in terminology have been changed for the sake of national uniformity.

Dr. Scobee states in his new preface, "The section of functional and surgical anatomy has been considerably enlarged. The portions on physiology . . . . have been rewritten in more detail. . . . Extensive additions have been made in the chapters of hyperphoria and on exophoria. . . . The third section—on heterotropia has been largely rewritten date; a section on congenital deficiencies of abduc- in the interests of clarity and to bring it up to tion has been added. . . . The section on the cover test has been enlarged and a new chapter added on the diagnosis of the vertical deviations. The entire last section — on therapy — has been com-

pletely rewritten. . . . "A final chapter on reasons for failure in tropia surgery has been added."

Dr. Scobee continues to write in a style which is straight-forward, frank, and frequently refreshed by well-chosen humor. Therefore, the volume is quite readable; even the most involved section could not be classed as "dry."

This edition is highly recommended for the student and practitioner of ophthalmology, not only to represent an excellent system of diagnosis, but also as a review of basic anatomy and physiology, and as a stimulus to further original study in this intriguing field.

J. William Rosenthal, M. D.

Physical Foundations of Radiology; by Otto Glasser, Edith H. Quimby and J. L. Weatherwax. 2nd ed., New York, Paul B. Hoeber, Inc., 1952. pp. 581. Price $6.50.

This well known volume by distinguished and outstanding teachers and physicists has been completely revised, and partially rewritten. In order to cover new fields of importance since the first edition, several new chapters have been added. As in the case of the previous edition, in which eight printings were demanded, the book is intended as a compact, elementary and nonmathematical guide to radiation physics for the physician and the student.

The text is divided into twenty chapters and an appendix containing roentgenray depth dose tables. The first six chapters cover a brief historical outline and fundamental concepts of matter, radiation, electricity and magnetism and the production and nature of roentgen rays. Chapters VII through X are concerned with roentgen-ray tubes and circuits, supervoltage generation and physical principles of roentgen-ray diagnostic procedures. Measurement of roentgen-ray quantity and quality and tissue dosage are discussed in the next three chapters. Chapters XIV through XVI cover radioactivity and dosage calculation with measurement of gamma ray quantity. Dosage and measurements of radiations from radioactive isotopes are considered in Chapters XVII and XVIII. Chapter XIX is devoted to the relation of biologic reaction on quality and time factors. Protection is considered in the last chapter.

Approximately seventy new illustrations have been added in the present edition. As a whole the illustration consists of line drawings which are excellent. The text is clear and well written. It is believed that the present volume will maintain the prominent position attained by the original edition of this most valuable book.

J. N. Ané, M. D.

Etiology and Diagnosis in the Treatment of Infertility in Men; by Robert S. Hotchkiss, M. D. Springfield, Ill. Charles C. Thomas, 1952. pp. 73, illus. Price, $2.50.

This small volume of 73 pages offers an excellent, brief but adequate review of the facts pertaining to the etiology and diagnosis of infertility in men. It includes the embryology, anatomy and physiology, clinical considerations, physical examination, laboratory tests, methods of collecting semen specimens and an interpretation of the findings of a semen analysis. It also includes a chapter on the testis, one on the endocrine system, and one on testicular biopsy. The author ends his discussion with the current thought on Heckle's work with large doses of testosterone propionate in oligospermic men.

This book is recommended to all interested in infertility. Students will find this book concise and inclusive.

John G. Menville, M. D.

Viral and Rickettsial Infections of Man; edited by Thomas M. Rivers. 2nd ed. Philadelphia, J. B. Lippincott, 1952. Pp. 719. Price, $7.50.

When this book first appeared four years ago, it represented, as the editor pointed out, a first attempt at bringing together the then new ideas concerning viruses and Rickettsiae, and making them available to physicians and students. So successful was the first edition that it rapidly became indispensable to all interested in viral and rickettsial infections as they affect man. Nothing testifies better to the excellence of the book than the fact that relatively few changes were necessary to bring it up to date. The phenomena of hemagglutination and interference have assumed such theoretical and practical importance that a whole chapter has been devoted to each. Another new chapter on diagnosis of viral and rickettsial infections sums up much practical information which is distributed throughout other chapters. A new chapter is likewise devoted to the Coxsackie group of viruses which have only recently come into prominence. Paragraphs have been added here and there on cat-scratch disease, generalized salivary gland virus infections, and the use of deembryonated eggs in the propagation of viruses. Other chapters, such as the one on chemical and physical procedures, on herpes simplex, have been enlarged to include recent data. The discussions on Fort Bragg fever and swineherd's disease, both now known to be leptospiral infections, have been removed from this book and transferred to the companion volume edited by René Dubos. All in all, Dr. Rivers and his distinguished group of co-authors are to be congratulated for a textbook which includes a detailed enough exposé of theoretical knowledge (such as, for example, the chapter on bacterial viruses) to form the basis for an enlightened understanding of clinical manifestations, prophylaxis, and treatment. This edition, like the previous one, has been subsidized by the National Foundation for Infantile Paralysis, Inc., so that the price is extremely modest, especially in view of the size of the book and its pleasing appearance.

Margaret H. D. Smith, M. D.

Outline of Fundamental Pharmacology; The Mechanics of the Interaction of Chemicals and Living Things; by David F. Marsh. Springfield, Ill., Charles C Thomas, 1951. Pp. 219. Price, $6.00.

This is a consideration of factors, such as biological variation, dose effect curves, bioassay, drug antagonism, methods of localizing sites of action of a drug, absorption, distribution, and fate of drugs in the body, in so general a way that drugs are specifically named only as examples of the process or facts under consideration. It is a good introduction to pharmacologic principles or a good review of them but for study should be supplemented by a more specific book.

FOSTER N. MARTIN, JR., M. D.

Comparative Physiology of the Thyroid and Parathyroid Glands; by Walter Fleischmann, M. D., Ph.D. Springfield, Ill., Charles C Thomas, 1951. Pp. 78. Price, $2.25.

This is a monograph in the series of American Lectures in Endocrinology. It presents an excellent, well organized review of work done on animals, beginning with the invertebrate forms, tunicates, and acraniates, and continuing with a discussion of the available data on fish, amphibia, reptiles, birds and, finally, mammals. The latter group, as would be expected, receives the most attention. Recent definitive work with radioactive iodine (I^{131}) is emphasized indicating that its use is serving to confirm previous work and is rapidly extending our knowledge of the functioning of the thyroid gland. Thus, in pregnant rats, iodine storage can only be demonstrated toward the end of fetal life, while in the human embryo, the thyroid is differentiated histologically and functionally at the end of the first twelve weeks of intrauterine life. The author points out that the mechanism involved in the synthesis of thyroid hormone seems to be identical throughout the vertebrate phylum. This is not only proven by the similar effect of the administration of antithyroid drugs in fish, amphibia, birds, and mammals, but also by the finding that the ratio of thyroxin iodine to total iodine remains constant from species to species.

This volume will be of value to biologists working in the general field of thyroid physiology and medicine, and particularly, to the clinical investigator interested in the use of various animals for assay purposes. The bibliography given is complete and authoritative.

H. S. MAYERSON, Ph.D.

Ophthalmic Pathology: An Atlas and Textbook; by Jonas S. Friedenwald and others. Philadelphia, W. B. Saunders, 1952. Pp. 489. Price $18.00.

An outgrowth of the Institute of Pathology Ophthalmic Atlas, this new volume represents the combined efforts of the American Academy of Ophthalmology, The Armed Forces Institute of Pathology, the group of contributing authors, headed by Dr. Jonas S. Friedenwald and all American Ophthalmologists for the past thirty years who have sent tissue to the Institute for examination. The text, which comprises approximately two-thirds of the 489 pages presents the most advanced thought along the lines of physiopathology and histopathology. A number of the sections were written by specialists in the fields in which they have done investigative work and are best known. Among these are Owens and Owens' contribution to the section on retrolental fibroplasia and Friedenwald's work on diabetic retinopathy. The section dealing with radiation cataract was written by Cogan. The text material is concisely presented at the beginning of each of the eighteen chapters, and no reference is made to specific cases or case histories. The chapter entitled *Tumors* is most outstanding because of the wide diversity of neoplastic lesions which are presented. Over 50 pages are devoted to this subject. The text is based upon Friedenwald's earlier work, *Pathology of the Eye*. Pathologic conditions which have received investigative emphasis during the last ten years are discussed and the fruits of this research are included in the text. Another unusual feature is the documentation at the end of each chapter. This is divided into two parts: "text-references" which include important ophthalmic pathology articles; and "general references" which are to be found in general pathology literature.

Superb black and white photomicrographs are collected at the end of each chapter. These are the most representative pictures obtainable from perhaps the world's most complete slide collection.

This volume should be a part of the library of every ophthalmologist who is interested in keeping abreast with recent advances made in ophthalmic pathology.

GUSTAV C. BAHN, M. D.

Biological Antagonism; the Theory of Biological Relativity; by Gustav J. Martin. New York, Blakiston, 1951. Pp. 516. Price $8.50.

This book is a summary of a vast amount of literature on antagonism of various substances to each other in biological systems. Throughout the author insists on relative not absolute specificity of substrates and active substances, which is a commonly accepted thing but to which he attaches the name of "biological relativity." Numerous examples of chemical compounds, whose biological effects are blocked by substances wtih similar structure or where similar structure entails similar action, are cited. In most instances the work cited deals with lower organisms or test tube effects on enzymes though there is included in some groups work done in higher animals. There is perhaps not enough stress on discrepancies between test tube results and results on animals, such as the one

mentioned in regard to atropine: "Its (atropine's) action on cholinesterase is inhibitory, which would indicate a parasympathomimetic activity rather than its actual spasmolytic effect."

The book as a whole is a good review of biological antagonism.

FOSTER N. MARTIN, JR., M. D.

Post-Graduate Lectures on Orthopedic Diagnosis and Indications; by Arthur Steindler, M. D. Springfield, Ill., Charles C Thomas, 1952. Vol. III, pp. 284. Price, $8.75.

The third volume in this series of four volumes by Dr. Steindler continues the postgraduate lectures in orthopedic surgery with a discussion of tuberculosis of the skeletal system and osteomyelitis. The first section of 164 pages deals with the pathology, diagnosis, treatment of tuberculosis of the skeletal system in general, and considers osteomyelitis of the various bones and joints, such as, the hip, spine, knee, ankle, wrist, etc. individually. It is profusely illustrated, and, for the most part, the illustrations are excellent. When one first considers this first section it appears that a great deal of repetition is present. However, after careful reading of this section, one realizes the value of this specific type of organization.

The second section of this book consists of 102 pages devoted to osteomyelitis. It first considers the general aspects of pathogenesis, diagnosis, and treatment followed by specific discussion on osteomyelitis in various regions. This is followed by more unusual types of osteomyelitis resulting from actinomycosis, coccidiosis, brucellosis, and other less frequent septic agents. Again, the discussion is thorough, methodical, and complete and the illustrations are, for the most part, very good. Discussion of treatment reflects the author's extensive experience prior to the introduction of adequate antibiotic therapy, although antibiotics are considered in the discussion of treatment.

On the whole, this third volume in this series appears to the reviewer to be somewhat better than the first two volumes and contains much material that is not easily obtainable elsewhere in a similar text. This third volume and the others in the series will prove of greatest value as a reference text, and will find place in the library of the pathologist and general surgeon, as well as the orthopedist.

JACK WICKSTROM, M. D.

Synopsis of Genitourinary Diseases; by A. J. Dodson, M. D., and D. L. Gilbert, M. D. 5th ed. St. Louis, C. V. Mosby Co., 1952. Pp. 313, illus. Price $4.00.

The fifth edition of this popular book has been brought up to date primarily in the field of antibiotics and chemotherapy. The organization and presentation of material is excellent and the illustrations adequate. The principles in the practice of urology are clearly presented.

Although written primarily for students of medicine this book will serve admirably as a reference for urological problems encountered in practice.

JOHN G. MENVILLE, M. D.

PUBLICATIONS RECEIVED

Paul B. Hoeber, Inc., N. Y.: Modern Treatment, a Guide for General Practice, by fifty-three authors and edited by Austin Smith, M. D., and Paul L. Wermer, M. D.

Charles C. Thomas, Publisher, Springfield, Ill.: The Psychopathic Delinquent and Criminal, by George N. Thompson, M. D.; Pathology of the Heart, by S. E. Gould, M. D.

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[1]Evans, R. R., and Rackemann, F. M.: *A.M.A. Arch. Int. Med.* 90:96–127, July 1952.

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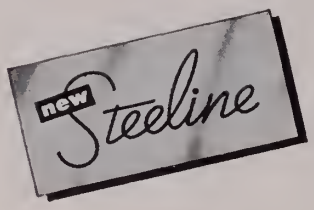

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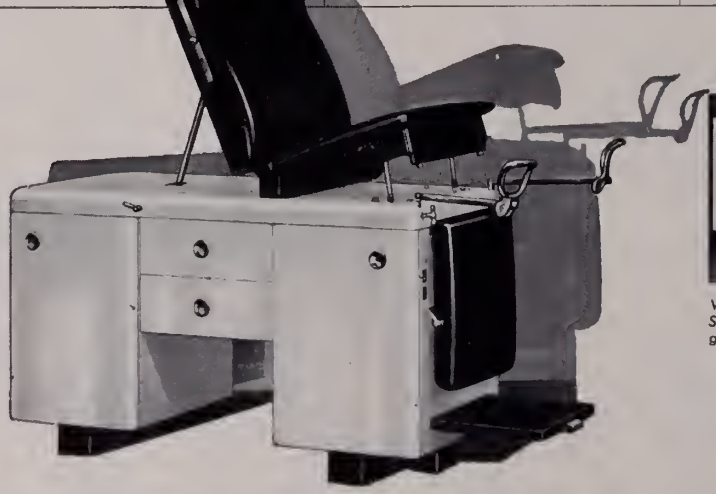

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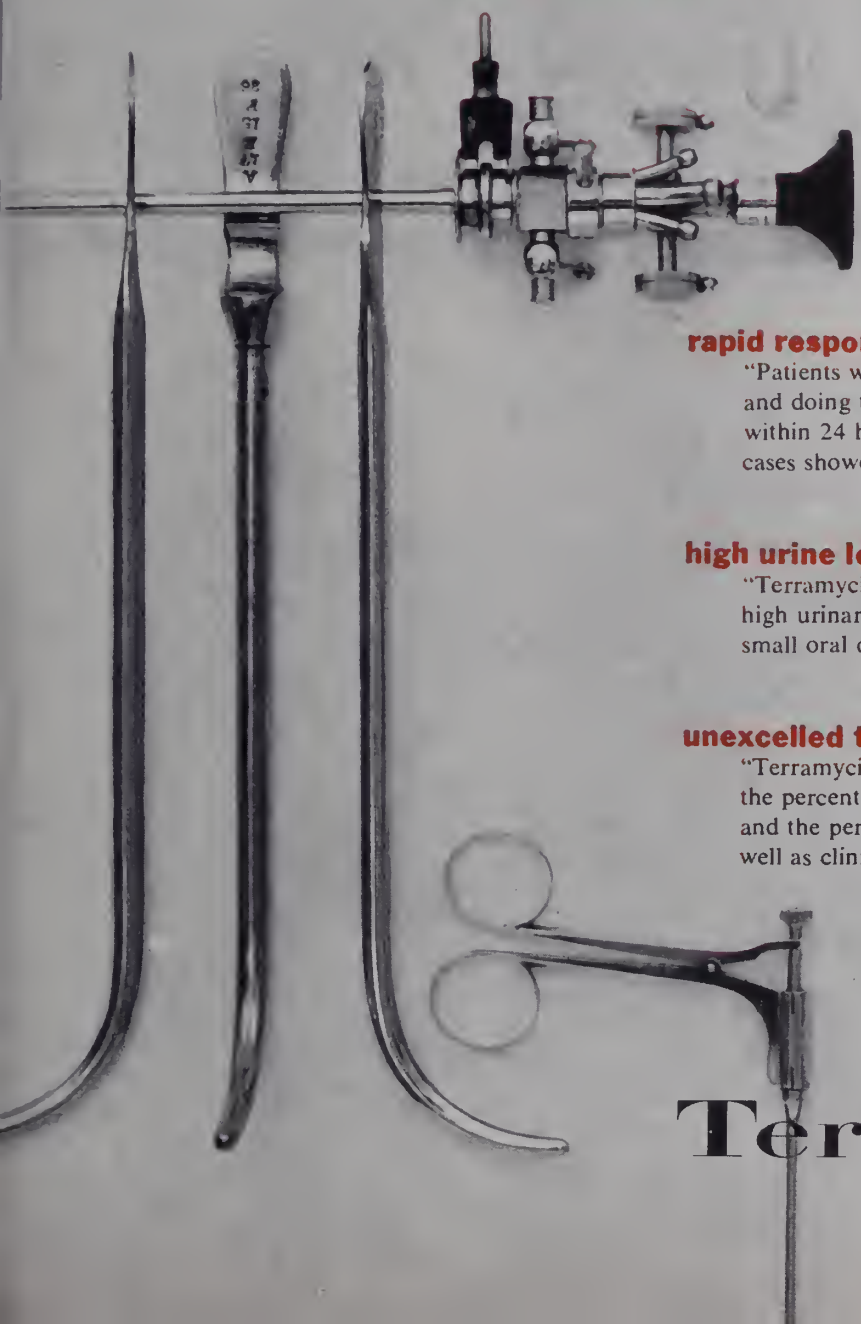

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1. Canad. M. A. J. 66:151 (Feb.) 1952.
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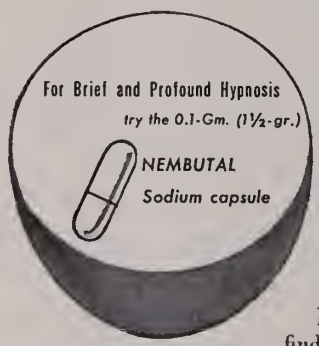

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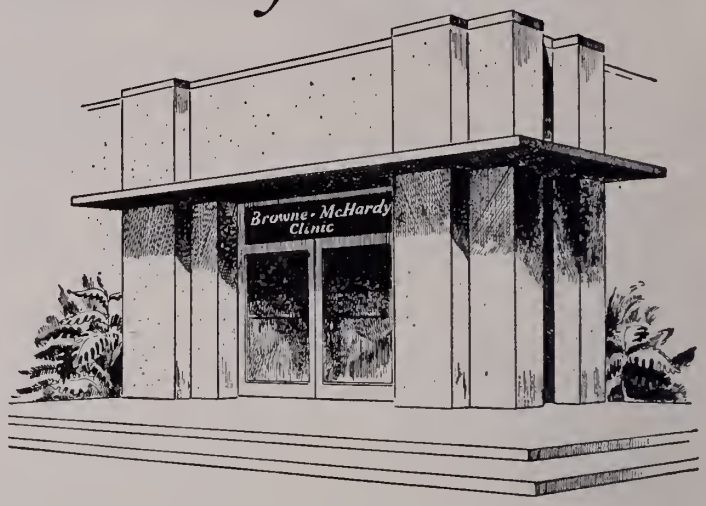

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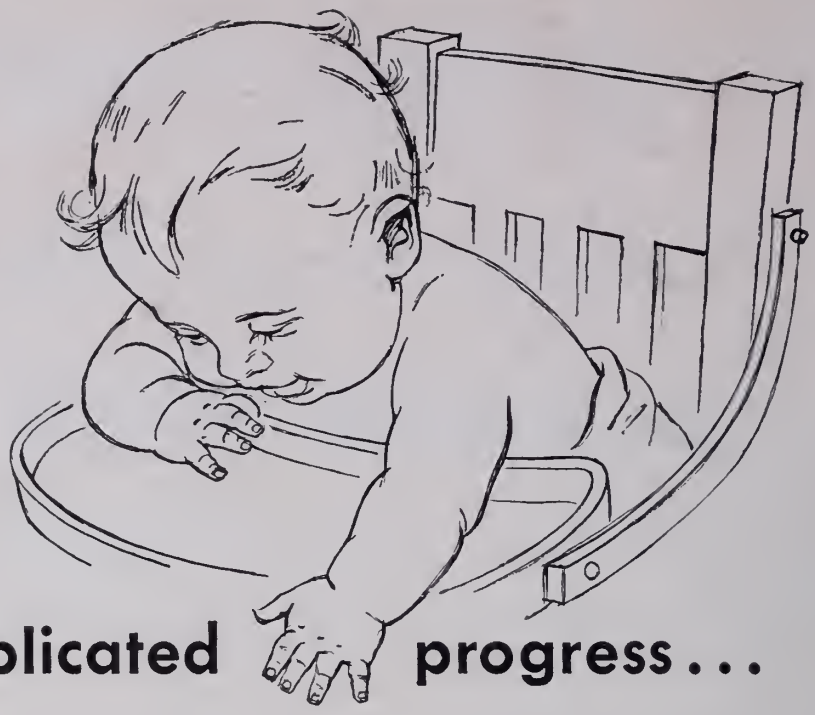

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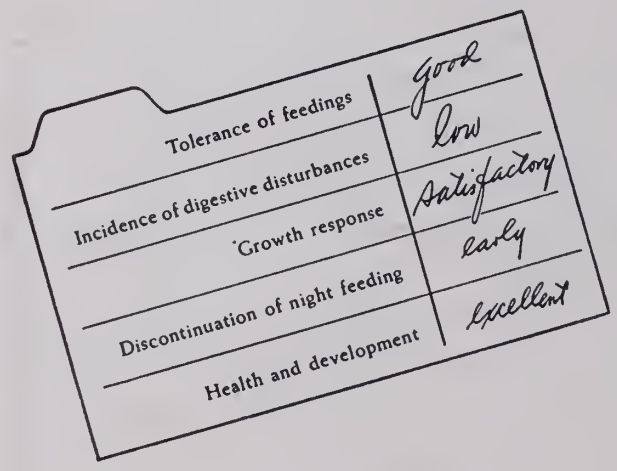

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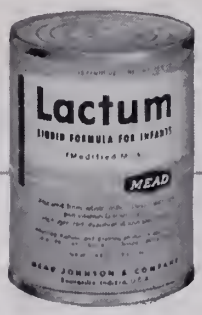

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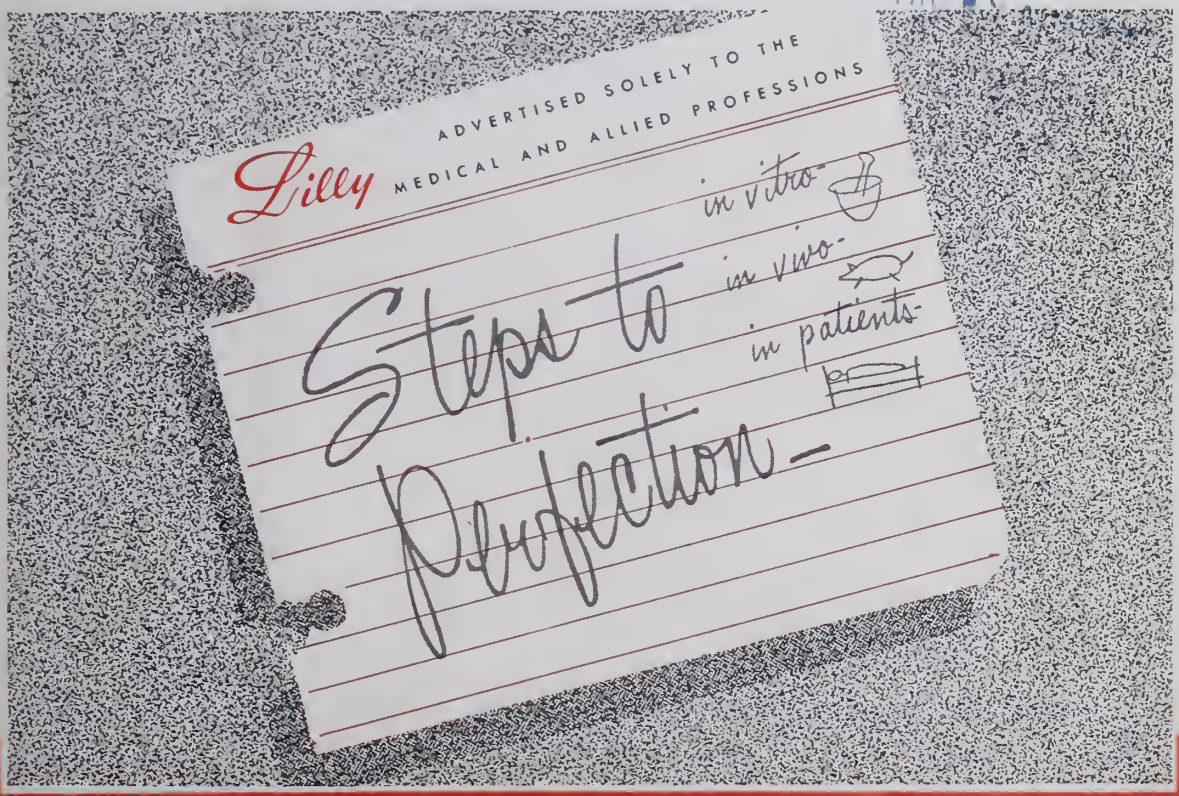

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CHATTANOOGA, TENNESSEE
MONDAY, SEPTEMBER 28, and TUESDAY, SEPTEMBER 29, 1953
SPEAKERS

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George Crile, Jr., M.D.	Cleveland, Ohio
Charles W. Mayo, M.D.	Rochester, Minn.
Richard W. TeLinde, M.D.	Baltimore, Md.
Philip Thorek, M.D.	Chicago, Ill.
Paul D. White, M.D.	Boston, Mass.
Paul Holbrook, M.D.	Tucson, Ariz.
Robert B. Lawson, M.D.	Winston-Salem, N. C.
John B. Youmans, M.D.	Nashville, Tenn.
John R. Heller, M.D.	Bethesda, Md.
V. P. Sydenstricker, M.D.	Augusta, Ga.
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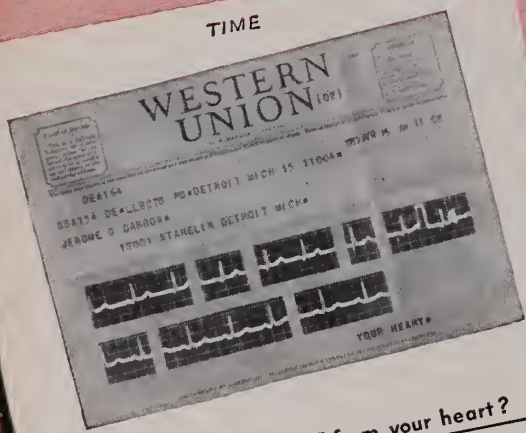
Parke, Davis & Company announces a new series of

THEME: "In the hands of your

TIME



Ever see a "telegram" from your heart?

You are looking at an *electrocardiogram*, a record of the tiny electrical impulses given off at each beat of your heart.

When interpreted by your doctor, such "telegrams" may read: "Patient's heart normal — no need for worry." Others may say: "Patient's heart faulty — help required."

Yet, even when the heart sends out a message of trouble, it does not necessarily mean impending tragedy. For even a defective heart is capable of working for years if not overtaxed.

Thousands of people are living good lives with weak hearts because they acted wisely and at the right time.

First, they did not ignore the warnings that often precede heart trouble—shortness of breath, pains *in the chest*, irregular beating of the heart, and continued fatigue. They heeded these warnings in time — knowing that their greatest security depended on taking prompt advantage of the help which medical science could give them.

Second, they accepted the limitations and restrictions imposed by a weakened heart. They tried not to "over-do"; they learned to avoid sudden exertion, and to keep weight at the normal level. They also recognized the value of sleep and relaxation, and the importance of freeing their lives from worry and strain.

Remember that as your physician's hands, you are in good hands. For today, physicians are better equipped than ever before to detect and control heart disease—and to guard against it as well. By taking advantage of the help your doctor can give you now, you increase your chances of living a good life with a bad heart.

Research groups from the National Heart Institute, the American Heart Association, scores of universities, hospitals, pharmaceutical laboratories, and private institutions are constantly seeking new knowledge which will help physicians to control heart disease more effectively. Parke, Davis & Company, as a result of years of research, produced for physicians, is proud to play its part in this great concerted effort. For it is because of such outstanding research that there is indeed "new hope for hearts" today.

PARKE, DAVIS & CO.
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SATURDAY EVENING POST

This man is his own worst enemy! Yet most of us can sympathize with him—for most of us do don't "run to the doctor" every time we have an ache or pain.

We're much more likely to say: "Oh, I'm all right. It's really nothing." Or to tell ourselves: "I'm too busy to bother with doctors."

Yet, the man (or woman) who ignores seemingly minor symptoms often feels the irk of arriving man's more serious ailments. That's because most diseases suffer on neglect: the same thing we can do is to ignore warning symptoms until it may be too late for the doctor to help.

Medical research in America today is writing one of the most heart-warming chapters in the story of mankind. Our great laboratories, our hospitals, universities, and a host of governmental and private organizations are concentrating as never before to improve our chances of living a longer, healthier life.

Your own doctor has at his disposal all of the discoveries, all of the knowledge, of modern medical science. But you are the only one who can put those vast resources to work to help you.

So next time you are tempted to ignore warning symptoms, remember that your present *danger* lies in neglect and delay. Remember—as your physician's hands, you are in good hands. But only by acting promptly can you take advantage of the help he can give you now.

This message is published in the public interest by Parke, Davis & Company.
Since 1866, physicians have prescribed and pharmacists have dispensed medicines bearing the Parke-Davis label.

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LIFE

DO YOU KNOW THIS MAN?

HIS NEGLIGENCE IS CAUSING THOUSANDS OF DEATHS FROM HEART DISEASE

Here's a description of the culprit:

Overweight. Short of breath. (The old ticker really pounds on a flight of stairs.)

Often over-exercises on week ends after a sedentary week. Sometimes bothered by a peculiar swelling in the ankles.

Works too hard. (Feels he's indispensable in his job.) Has trouble relaxing. Worries. Sleeps poorly. Complains of being always tired.

Had a couple of attacks of "indigestion" recently. When asked by wife to please check with doctor, was heard to reply: "What for? I'm not sick — besides, I'm too busy!"

The greatest problem in dealing with heart disease today is the man (or woman) who ignores the "danger signals" said it can be too late to take advantage of the help which medical science is prepared to give. Yet thousands of people are living good lives with bad hearts — because they acted wisely and in time — because they were in their physicians' hands they were in good hands.

For it is a fact that much progress has already been made in dealing with heart ailments, and more and more research is being carried on, largely through such great agencies as the American Heart Association and its affiliate aids chapters, the National Heart Institute, and a number of pharmaceutical companies, including Parke, Davis & Company, once 1866 makers of medicines prescribed by physicians.

PARKE, DAVIS & CO.

dvertisements addressed to the general public . . .

hysician, you're in good hands"

Neglect . . . delay. How many times, doctor, have you cared for patients . . . whose hope of recovery might have been bright indeed . . . *but for neglect or delay in seeking your help?*

Undoubtedly, this occurs so often . . . and usually with such tragic consequences . . . that many physicians view it as the greatest problem facing medical science today.

Moreover, this problem may assume even greater significance with the rising incidence of the degenerative diseases. For in these conditions, neglect and delay, as you well know, are *directly* responsible for a heavy toll of life.

We believe you will agree that this problem deserves increased and continuing emphasis. This is why Parke-Davis will publish, throughout 1953, a series of advertisements on the *patient's responsibility* in medical care.

These advertisements, four of which are reproduced here, will appear in leading magazines reaching millions of families. In them, this central theme will be emphasized:

That every individual, if he wants his physician's most effective help, must meet the doctor halfway. *He must not ignore symptoms, or delay treatment. He must act promptly . . . and be made to realize that "in the hands of your physician, you're in* good *hands."*

In addition, the advertisements will stress the fact that medicine has a vast store of new knowledge . . . and that this knowledge is constantly increasing through research by physicians, hospitals, public and private health organizations, and pharmaceutical companies.

A word about the preparation of these advertisements: They have been carefully written to avoid both the possibility of stimulating hypochondria and encouraging self-diagnosis. Equally important, the advertisements make no claims that might cause undue optimism or raise false hopes. We believe these are just the type of informative messages you will want your patients to read. Our efforts will be guided and encouraged by your continued interest and comments.

PARKE, DAVIS & CO.

Research and Manufacturing Laboratories, Detroit 32, Michigan

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- Laboratory and Research Departments
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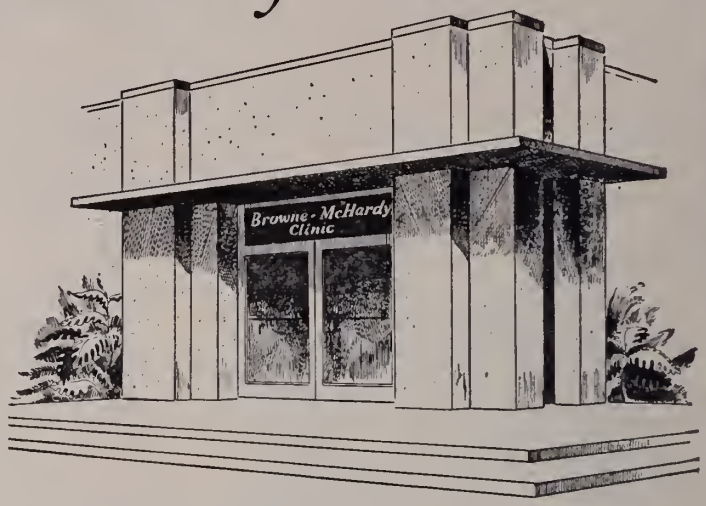

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B-P RIB-BACK BLADES are the result of a constant endeavor to provide the surgeon with quality-controlled blades, having uniformly sharp and enduring cutting edges that he can depend on for maximum service performance. That is why . . . when you figure your blade purchases in terms of *true economy* . . . the answer is always, "IT'S SHARP"—B-P Rib Back Blades.

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SCHERING

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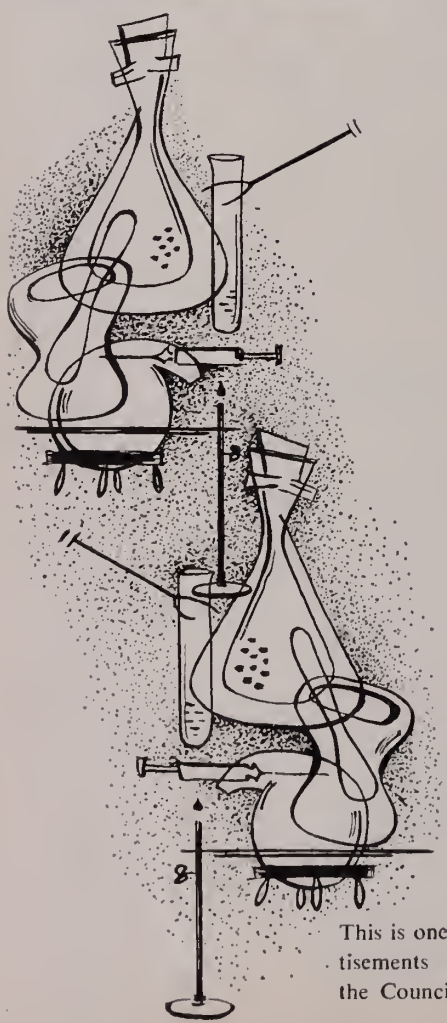

Many times you have asked yourself, "Is the indicated drug Penicillin . . . Chloramphenicol . . . Aureomycin . . . Sulfadiazine . . . a combination . . . or what?" This same problem may confront you many times . . . not only with the antibiotics—but actually in any specific field where there are numerous drugs . . . and you are faced with the problem of determining which might be the therapy of choice for a given condition.

The need for such clarification has always been apparent to the Council on Pharmacy and Chemistry of the American Medical Association. Its frequent publication of special status reports in THE JOURNAL is designed to help answer such questions for you.

Information about new drugs—clinically proved indications . . . experimental uses . . . correct dosages . . . contra-indications . . . and similar facts—is frequently presented by the Council. Its announcements of newly accepted products also help keep you up-to-date on new and useful drugs. These notices which appear in THE JOURNAL almost every week can be a definite guide to you in knowing what preparations are Council accepted . . . how they are best used . . . and how they can be most effective in your daily practice.

Insistence on Council accepted products is one reliable guide to clinically tested products.

This is one of a series of advertisements designed to explain the Councils' functions to you.

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1. Thorn, G. W., and Tyler, F. H.: *Med. Clin. North America*, 31:1081, Sept. 1947.

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ERYTHROCIN, *0.1-Gm. (100-mg.) Tablets, bottle of 25.*

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TRADE MARK

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INDICATIONS Pharyngitis, tonsillitis, scarlet fever, erysipelas, pneumococcic pneumonia, osteomyelitis, pyoderma. *Also other infections caused by organisms* susceptible to its action, including staphylococci, streptococci and pneumococci.

DOSAGE Total daily dose of 0.8 to 2 Gm., depending on severity of the infection. A total daily dose of 0.6 Gm. is often adequate in the treatment of pneumococcic pneumonia. *For the average adult* the initial dose is 0.2 Gm. to be followed by doses of 0.1 or 0.2 Gm. followed by doses in the same range every four to six hours. *For severely ill patients* doses up to 0.5 Gm. may be repeated at six-hour intervals if necessary. Satisfactory clinical response should appear in 24 to 48 hours if the causative organism is susceptible to ERYTHROCIN. Continue for 48 hours after temperature returns to normal.

Abbott

1. McGuire et al. (1952), J. Antibiotics & Chemo., 2:281, June.
2. Heilman et al. (1952), Proc. Staff Meet. Mayo Clin., 27:385, July 16.
3. Haight and Finland (1952), New Eng. J. Med., 247:227, Aug. 14.

1-139

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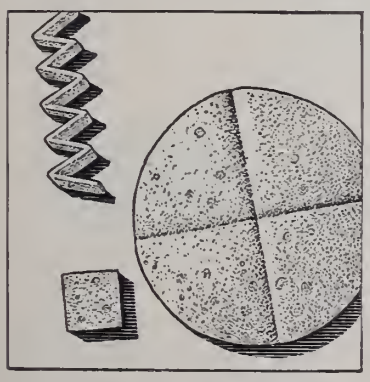

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ROY CARL YOUNG, M. D., Psychiatrist

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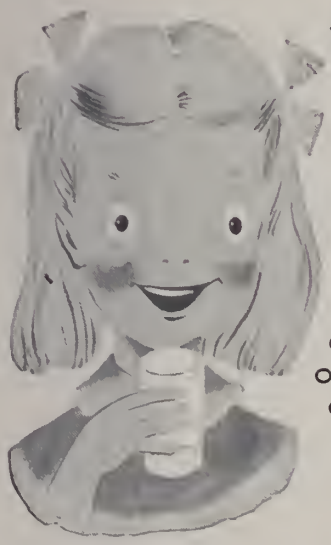
Children take it without the least bit of fuss...

SWALLOWED WHOLE



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- 24 Tablet Bottle ... 2½ gr. each 15¢

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For sustained contraction of the postpartum uterus

AMPOULES AND TABLETS

Ergotrate Maleate

(ERGONOVINE MALEATE, U.S.P., LILLY)

The Journal

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$4.00 Per Annum, 35c Per Copy
Vol. 105, No. 5

MAY, 1953

Published Monthly
1430 Tulane Avenue, New Orleans 12, La.

MAGNAMYCIN IN ACUTE AMEBIC COLITIS

W. A. SODEMAN, M. D.*
R. C. JUNG, M. D.*
New Orleans

Magnamycin** is a new antibiotic which possesses activity against a wide group of bacterial, rickettsial, and protozoal organisms.[1] Since preliminary in vitro tests have shown activity against several strains of *E. histolytica*, we decided to use this agent in the treatment of acute amebic colitis. The following 4 case summaries indicate the results obtained.

CASE REPORTS

Case No. 1. C. S., a white female, age 2½ years, entered the hospital on December 2, 1952, complaining of diarrhea. Active amebic ulcers were found by sigmoidoscopic examination in the rectal and sigmoid colon. *E. coli*, *E. nana*, and ascaris were also found in the stool specimens. Magnamycin was started on December 14, 1952, 250 mg. every eight hours, on a basis of 60 mg./Kg./day. It was continued for five days. The patient vomited once on December 14. and again in December 15. Diarrhea recurred on December 17, and was of the mucus type. It persisted until December 22. Daily stool examinations were negative for *E. histolytica* after December 14. On December 26, sigmoidoscopy revealed healing of the ulcers previously seen. No amebae were found.

Case No. 2. W. H., a colored male, age 2, had had recurrent bouts of diarrhea with frequency of stools up to 15 daily for about a year. Specimens often contained streaks of blood. On October 25, 1952, *E. histolytica* trophozoites and Trichocephalus eggs were found in the stools. On October 30, terramycin, 150 mg. every six hours, was started. By November 7, symptoms had persisted and amebae were still present in the stools. Sigmoidoscopy at that time showed large amebic ulcers containing motile trophozoites. On November 10, magnamycin was started, 250 mg. every eight hours, and continued for five days. By November 13, the stools were semisolid and on November 15, sigmoidoscopy revealed vast improvement with healing of ulcers. A few tiny ulcers remained, in which amebae could not be demonstrated.

Case No. 3. W. L., a white male, age 4, had complained of diarrhea for six months. In the past three weeks it had been blood streaked. Sigmoidoscopy on February 5, 1953, revealed many amebic ulcers containing abundant trophozoites of *E. histolytica*. Magnamycin was started, 250 mg. 5 times daily, and continued for 5 days. Blood disappeared from the stools by February 8. Amebae were absent on February 13, and on February 14, sigmoidoscopy revealed that all the ulcers had healed. Repetition of sigmoidoscopy on February 26, showed no ulcers. Aspirates were negative for *E. histolytica*. Subsequent stools have been negative for *E. histolytica*, the last being obtained on April 16, 1953.

Case No. 4. H. O., a colored male, age 40, was first seen on January 19, 1953. He had suffered for over a month from recurrent episodes of diarrhea and abdominal pain. On January 21, sigmoidoscopy revealed numerous small ulcerations throughout the rectum and sigmoid as far as the 10″ instrument could be passed. Aspirates revealed numerous motile trophozoites of *E. histolytica*. Magnamycin, 250 mg. every six hours, was started immediately and continued for ten days. It was followed by a course of milibis. Stools became negative for *E. histolytica* on January 22, and remained negative for the entire period of observation. On January 28, sigmoidoscopy revealed 2 remaining small ulcers. *E. histolytica* was not found in the aspirates. On February 27, 1953, sigmoidoscopy revealed a normal mucosa. The last examination, done on April 30, 1953, was negative for *E. histolytica*.

In the 4 patients treated, control of the

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*From the Department of Tropical Medicine and Public Health, School of Medicine, Tulane University of Louisiana, New Orleans, La., and the Charity Hospital of Louisiana at New Orleans.

**The Magnamycin used in this report was supplied by Chas. Pfizer & Co.

diarrheal symptoms was prompt. The patients were especially chosen because amebic ulcers were seen in sigmoidoscopic examination and it was possible to observe the ulcers and note healing. Prompt healing occurred along with the disappearance of *E. histolytica* from the stool specimens and the bowel aspirates. Final evaluation for parasitological cure was not carried out.

Responses with magnamycin, in this series of 4 patients, were similar to those described for terramycin and aureomycin[2-4] in acute amebic colitis. For example, Sodeman, Chaudhuri, and Banerjee[2] in treating 16 patients suffering from active dysentery with terramycin, found prompt control of symptoms in all patients, and in 7 patients examined sigmoidoscopically, from the fourth to the seventh day of treatment, observed healing of ulcers. *E. histolytica,* previously present in large numbers, disappeared from the lesions and the specimens obtained from them. Elsdon-Dew[3] and Killough and Magill[4] obtained similar results with aureomycin and terramycin respectively. These observers, however, found inadequacy of parasitological cure.

Magnamycin, in our 4 patients, appears to have had an effect upon the amebic lesions and the accompanying symptoms similar to that of aureomycin and terramycin. The results in this small series do not warrant statements of relative effectiveness of this antibiotic over terramycin and aureomycin. In one patient, however, terramycin failed and magnamycin subsequently effected healing of the ulcers. In one of Sodeman, Chaudhuri and Banerjee's patients terramycin similarly failed and emetine gave prompt results. It is possible that magnamycin may be useful in instances where other therapeutic agents have failed, as in our Case No. 2.

Dosage schedules were arbitrarily developed. The generally recommended dosage of magnamycin in adults is 2 gms. daily in divided dose. This was the schedule followed in our adult patient and was continued for ten days. In the children dosage was calculated on the basis of 50-80 mg./Kg./body weight in a manner similar to that used for terramycin and aureomycin. In the children treatment was continued for only five days. The optimal dose and the proper length of course remains to be established as does the effectiveness of the drug in bringing about parasitological cure.

In our 4 patients toxicity was recognized in only one. Patient No. 1 vomited once daily on the first two days of treatment. A mucus diarrhea appeared on the fourth day and lasted six days. The importance of these symptoms and their clear relationship to the therapy was not established. We did feel that the vomiting was related to medication.

CONCLUSIONS

Magnamycin, a new antibiotic, was used in the treatment of 4 patients with acute amebic colitis. Symptoms were controlled and amebic colonic ulcers promptly healed. These results were obtained in one patient after terramycin failed to control the disease.

Possible toxicity occurred in one patient only. It was characterized by vomiting and the development of a mucus diarrhea.

REFERENCES

1. Magnamycin. Unpublished Data, Charles Pfizer Co., Inc., 1952.
2. Sodeman, W. A., Chaudhuri, R. N., and Banerjee, D.: Terramycin in active diarrheal and dysenteric amebiasis, Ann. Int. Med. 36:1467, 1952.
3. Armstrong, T. G., Wilmot, A. J., and Elsdon-Dew, R.: Aureomycin and Amoebic Dysentery, Lancet, 2:10, 1950.
4. Killough, J. H. and Magill, G. B.: Terramycin in epidemic typhus, amebic dysentery and typhoid, J. A. M. A., 147:1737, 1951.

A CLINICAL TRIAL WITH TESTOSTERONE CYCLOPENTYLPROPIONATE

W. A. REED, M. D.
J. F. LALLY, JR., M. D.
NEW ORLEANS

Testosterone cyclopentylpropionate (T.C.P.) is a new form of synthetic testosterone developed in the laboratories of the Upjohn Company. Some months ago we were given the opportunity of testing the effectiveness of T.C.P. on a selected group of patients in our office practice. This study was entirely clinical in nature, and factors, such as ketosteroid excretion, seminal fluid quantity, were not to be consid-

Department of Urology, Browne-McHardy Clinic.

ered. The effectiveness, or lack of effectiveness of T.C.P. was evaluated entirely on the results of history and physical examination.

T.C.P. was used on a total of 51 patients. These cases fell into three groups: (1) impotency; (2) male climacteric; (3) adolescent hypogonadism.

IMPOTENCY

The vast majority of our cases were in the first group—the impotent. The degree of impotency ranged from complete to minimal. There was no clear-cut end-point whereby success could be stated in this group, because there are no normal values for the coital rhythm in any class of men. The number of daily erections were not considered. Our criteria for success were increased libido, better erections, increased ability to have intercourse and better ability to prolong the act. Improvements in any or all of these criteria were classed as a successful case.

There were 47 cases of impotency in our series. Their ages varied from 29 years to 63 years. The symptoms presented were decreased libido, incomplete erections, premature ejaculation and painful or burning ejaculation, in that order of frequency. Duration of symptoms was from four weeks to fifteen years. In this group of 47 cases we achieved 38 successes and 9 failures.

It is not our purpose to enter into a discussion of the many causes for impotency. Our plan of treatment in every case was an initial complete history and physical examination. Our patients were then placed on injections of T.C.P.—the dosage varying from 25 mgms. to 100 mgms. The usual frequency of injections was twice weekly. Practically every one received general supportive measures, such as multi-vitamins.

In cases in which anxiety or nervousness was encountered, mild sedation was used. All patients in whom local pathology of the lower genitourinary tract existed were given local therapeutic measures. The most frequent findings were chronic prostatitis and posterior urethritis, seminal vesiculitis, urethral stricture, and prostatic hyperplasia. These men received prostatic massages, urethral dilatations and instillations (posterior urethra) of weak silver nitrate solution, mercurochrome or argyrol.

As stated above, these patients received T.C.P. twice weekly. Once weekly we would take an interval history, carry out any local treatment that was indicated, and make any changes in their oral medication that seemed indicated.

TABLE 1
AGE DISTRIBUTION

Age	Number of Cases	Successes	Failures
20-29	1	1	0
30-39	6	5	1
40-49	17	14	3
50-59	19	15	4
60-69	4	3	1
	47	38	9

TABLE 2
DOSAGE DISTRIBUTION

Mgm. T.C.P.	Number of Cases	Successes	Failures
25	3	3	0
50	15	11	4
100	29	24	5
	47	38	9

ANALYSIS OF FAILURES

As noted previously, 9 of our 47 cases of impotency failed to respond to treatment. We are not trying to alibi for these failures, but feel that a brief summary of each is indicated.

Case No. 1.—Age 59 years. Duration of symptoms, four years. Physical examination was negative, except for moderate prostatic hypertrophy and a low grade prostatitis. However, he had lost his wife one year previously, after a prolonged illness at home, and we are inclined to believe that he was still under fairly severe emotional trauma.

Case No. 2.—Age 59 years. Duration of trouble, two years. This patient persistently presented a marked glycosuria, but all blood sugar determinations were normal. He was faced with an unhappy home situation and in the absence of any cooperation from his wife became discouraged and discontinued treatment after a period of three weeks.

Case No. 3.—Age 55 years. Duration of symptoms, seven years. Positive physical findings in this patient were a moderate senile prostatitis and some hepatitis. He was a fairly heavy drinker. He failed to respond after eight weeks' treatment.

Case No. 4.—Age 61 years. Duration of symptoms, two years. This patient had had a transurethral prostatic resection two years previously, but stated he was having difficulty for a few months prior to surgery. He failed to respond after nine weeks of treatment.

Case No. 5.—Age 49 years. Duration of symptoms, one year. This man had a severe hypertension, and was under constant medication from his internist. It was our impression that his hypertension medications were too depressing to allow for any degre of improvement of his impotency.

Case No. 6.—Age 51 years. Duration of symptoms, one year. This man came to us from Central America. He had had some type of transurethral surgery there one year ago, and had had poor erections ever since. He never had been told what the procedure had been. Repeated cystoscopy gave us no clue. We could only find a large caliber urethral stricture and a mild prostatitis.

Case No. 7.—Age 36 years. Duration of symptoms, six months. Obesity and a moderate prostatitis were the only significant findings in this man. He was not too faithful in reporting for treatment, but failed to respond after a period of six weeks. Thyroid extract was used concurrently in this case.

Case No. 8.—Age 44 years. Duration of symptoms, eight years. Here again obesity and prostatitis were the only positive findings. He failed to respond after five weeks' treatment. There was no luetic history, and the serology was negative. However, he later responded to a series of injections of bismuth.

Case No. 9.—Age 59 years. Duration of symptoms, eight years. The patient had a mild prostatitis and urethral stricture. He had received numerous treatments elsewhere—all without success. He failed to show any improvement with injections of T.C.P., prostatic massages, and urethral dilatations.

We feel that the results obtained in this series of cases have been quite satisfactory, and believe that the response to T.C.P. is quite reliable. We encountered no instances wherein a prostatic neoplasm developed. Only one unusual reaction to the drug appeared. In this instance, the patient developed a moderate hypertension, which subsided within a few days after discontinuing T.C.P. The interesting feature in this man was that the same phenomenon had occurred when he was given testosterone some two years previously.

CLIMACTERIC

We only encountered three cases of the male climacteric in which T.C.P. was used. In all three instances the result was highly satisfactory.

HYPOGONADISM

One case of adolescent hypogonadism was treated with T.C.P. He was given 25 mgm. of T.C.P. twice weekly. His response was very gratifying and prompt. Pubic hair and definite increase in size of the genitalia were noted after the sixth injection.

SUMMARY AND CONCLUSIONS

1. Testosterone cyclopentylpropionate was used on 51 cases.
2. There were 47 cases of impotency. Of this group 38 patients (80.8 per cent) were considered to have responded successfully and 9 (19.2 per cent) were considered as failures.
3. Three cases of male climacteric were treated with T.C.P. and all responded well.
4. There was one case of adolescent hypogonadism treated with T.C.P. and the response was excellent.
5. In the whole series of 51 cases, 42 cases (82.3 per cent) were considered successful and 9 cases (17.7 per cent) were deemed failures.
6. No cases developed any evidence of prostatic carcinoma,

EVALUATION OF NEWER ANTICHOLINERGICS IN GASTROENTEROLOGY: SECRETORY, MOTILITY, AND CLINICAL STUDIES ON DARSTINE, PAMINE, AND RELTINE

GORDON McHARDY, M. D.
JOHN E. BECHTOLD, M. D.
DONOVAN C. BROWNE, M. D.
NEW ORLEANS

Neural regulation of alimentary tract motility and secretion, a therapeutic concept stimulated by Dragstedt's revival of vagotomy has been nourished by synthesis of a progression of promising anticholinergics.

Presented at Meeting of the Orleans Parish Medical Society, April 13, 1953.

From the Browne-McHardy Clinic and the Department of Gastroenterology, Touro Infirmary, New Orleans, Louisiana.

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Surgical vagotomy is a preganglionic denervation. The cholinergic blocking agents, inhibitory to the vagally denervated intestine, are therefore complemented by postgangionic action. The vagus, a mixed nerve, however, has inhibitory or adrenergic fibers and excitatory or cholinergic segments.[1, 2]

The anticholinergics, devoid of adrenergic influence yet inhibiting cholinergic action by preganglionic and postganglionic action, create alterations in gastrointestinal physiology differing from hose of a simple vagotomy. From these newer quaternary ammonium compounds, similar in action to tetroethyl ammonium compounds, we may anticipate:

1. Depressant influence on gastric motility, including peristaltic aberrations with delay in gastric emptying.[3]

2. Antisecretory influence.[4]

3. Inhibition of intestinal motility, including rhythmic contractions.[5]

Secondary to such action as a result of influence thereby on extrinsic gastrointestinal reflexes[6] may be assumed alteration in:

a. Gastroileal reflex dependent upon propagation of peristalsis from the stomach to the entirety of the small bowel by continuity.

b. Duodenogastric reflex, i. e., inhibitory gastric motility and increased pylorospasm by duodenal distention.

c. Jejunogastric reflex—similar to the duodenogastric reflex inhibits gastric emptying by duodenal dilatation.

d. Inhibitory intestinointestinal reflex producing changes suggestive of an adynamic ileus by areas of distention exciting proximal peristaltic arrest.

Psychic influences, excitatory or inhibitory, may alter any therapeutic reaction. A response pattern of two extremes has been depicted by Wolf and Wolff:[7] (1) Hypomotility, hyposecretion and mucosal blanching (cholinergic), or (2) hypermotility, hypersecretion, and mucosal hyperemia (adrenergic). Obviously, the dominance of either reaction may appreciably alter interpretations in evaluative studies such as we conducted.

It has been our impression[8] that adjunctive to a psychosomatic approach in the management of those gastrointestinal anathemas (i. e. peptic ulcer, hypermotility diarrhea, the irritable colon, and chronic ulcerative colitis) we should seek secretory and motility control through media other than symptomatic measures. Banthine, the initiator[8, 9] of a more rational approach to controlling disturbed physiology, has proved to be of specific but restricted value. Prantal,[8, 10] in evaluative studies tolerated better than banthine, has restricted value. Kirsner[10] has been a keen analyst of many of the more recently synthesized products offered for clinical evaluation. The field is exhausting in its extensiveness. Kirsner's group in their last publication summarized observations on sixteen of the newer compounds. From a preliminary pilot study of twenty compounds we selected two of the newer anticholinergics which we felt gave the greatest therapeutic prospect.

Our present study is, therefore, restricted to a secretory, motility, and clinical response evaluation of darstine and pamine. Reltine, a tertiary amine, selectively an efficient antispasmodic anticholinergic of unusual biological stability, was the third partner in the study.

The survey was conducted under as identical circumstances for each drug as was achievable.. Darstine was available to us early in 1952. The pattern of evaluative study established in its incidence was therefore carried over in turn to pamine and finally to reltine.

DARSTINE

Compound o. c. 1052-1575, (Sharp and Dohme), chemically titled 5-methyl-4-phenyl-1-(1-piperidyl)-3-hexanol methobromide is pharmacologically an effective anticholinergic. A histamine and mecholyl antagonist it is accredited with selective ganglionic gastrointestinal motility and secretory inhibition yet relatively devoid of antisialogogic and cardiovascular influence. No toxicity has been attributable to the drug and metabolic studies indicate prolonged duration of biological activity.[11] Though inconsistent, it showed intragastric (75 mg.)

and intraduodenal (150 mg.) antisecretory influence in secretory appraisal by Kirsner and Palmer.[10c]

Initial evaluation was conducted in 10 patients. An intramuscular dose of 25 mg. in each instance exerted no obvious cardiovascular influence as evaluated by pulse, respiration, blood pressure, vital capacity, and double Master's electrocardiographic estimates. There was no suppression of urinary output. Mild xerostomia was complained of by 4 patients, mydriasis by 1 of these 4. Thereafter each patient was given orally 100 mg. before meals and 200 mg. at bedtime. This schedule election standardized our administration to anticipate control of the four types of entity under study. Further, it is our impression that all anticholinergics are more effective orally when given on an empty stomach. This program was continuous for fifteen days, the dose was then reduced to 50 mg. before meals and 100 mg. at bedtime. Hematologic survey, including complete blood picture, urinalysis, phenolsulfonphthalein renal function, bromsulfalein hepatic function, blood nonprotein nitrogen, and a routine electrocardiogram were done on all patients on the fifteenth and thirtieth day. These studies revealed no untoward influence from darstine on this schedule. No appreciable side effects other than mild xerostomia and mydriasis, or any indication of toxicity, were elicited.

In 5 cases a gastrointestinal radiologic study, extended through six hours, followed the initial parenteral 25 mg. of darstine. In 4 of the 5 cases there was delayed gastric atonicity, emptying with evidence of gastric widening of the duodenal lumen, and ineffective suppressed peristalsis. In the fifth case gastric emptying was normally prompt but there was definite stasis in a dilated duodenal segment. All 5 cases showed initial transit delay through an abnormally dilated jejunum. The motility influence ameliorated in the fourth hour; thereafter, there was rapid transit of barium into the proximal colon with an ileocolic reflex in 3 patients resulting in prompt defecation. Repetition of this study when the patients were on the oral medication for thirty days revealed similar consistent motility influence with less gastric and small bowel atonicity, equivalent delay in barium transit and more sustained inhibition without ileocolic excitatory defecation reflex.

Secretory studies were conducted on 10 active chronic duodenal ulcer patients not under any form of therapy. Measurement of fasting secretion in the morning with constant electric suction and collection of aspirate at 4 fifteen minute intervals was followed by the intramuscular administration of 50 mg. of darstine. After a rest period of thirty minutes aspiration was restored and 4 fifteen minute interval specimens were collected. An anacidity for this period of observation was produced in 3 of the 10 patients. In two, both volume and titratable free acid was reduced beyond 50 per cent of the control secretory period. In 3 there was an increase beyond 25 per cent of the control and in 2 cases there was no appreciable influence. (Figure 1).

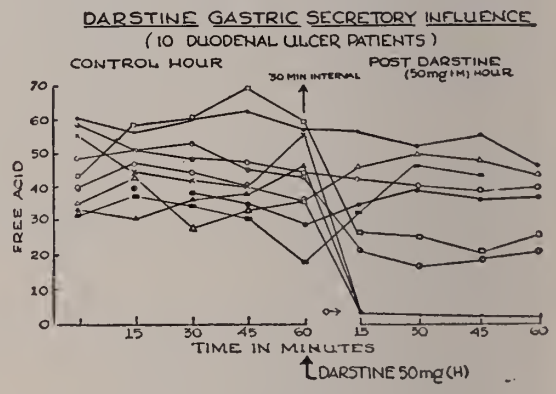

Figure 1

Clinically, 20 radiologically proven uncomplicated duodenal ulcer patients, 10 cases of functional diarrhea radiologically negative other than the roentgenologic opinion of hypermotility or irritable colon, and 10 patients with barium delineation interpretable as nonspecific colitis (with diarrhea) have been observed under darstine influence. A comparable series numerically and as far as practical in evaluation of severity has been conducted with each of the three anticholinergics and are obviously selected cases that permitted a follow up of at least four months.

1. *Duodenal Ulcer Patients*: All 20 were promptly relieved of either spontaneous or acid induced pain, within fifteen minutes, by darstine, 25 mg., intramuscularly. Pain relief endured for an average of three hours. The dietotherapy consisted of three regular meals a day devoid of obvious gastric irritants and supplemented by three intermittent feedings. Sedation was limited to barbiturates and the psychic influence of placeboes. No antacid was employed, and placeboes were given if such were requested. Darstine was prescribed 100 mg. fifteen to thirty minutes before three meals daily, and 200 mg. at bedtime.

All patients remained on the program for four months and were available for follow-up. Xerostomia in three, mild dysuria in 4, mydriasis in 4, and vertigo in 1 comprised the mild side effects that did not indicate discontinuance.

Therapeutic achievement: Symptomatic relief was complete in 12. Mildly recurrent ulcer pain occurred in 6; 2 patients who granted initial improvement thereafter claimed no benefit yet required no supplemental therapy. Radiological resurvey showed complete healing in 5, crater disappearance in an additional 4, residual irritability without other evidence of ulcer activity in 7. In only 4 was there no evidence of improvement whatever.

Functional Diarrhea: Cramping hyperperistaltic pains present in 4 patients were aborted by 25 mg. of darstine within twenty minutes. Peristaltic activity was quieted.

These 10 patients were managed on the same program other than dietary wherein intermittent feedings were omitted. Chronic intermittent or constant diarrhea for a period in excess of four months was exacted a requisite. Cooperation was excellent and the patient tabulated response from a symptomatic viewpoint; all patients adhered to the program with the common exception of paregoric for emergencies. Five considered themselves completely relieved for four months while on medication with 2 describing recurrent symptoms after discontinuance. These 5 especially complained of a gastrocolic reflex initially. Two considered themselves benefitted and 3 could appreciate no response. There was no radiologic change obvious in 8 patients reexamined other than anticipated mild hypomotility and dilatation in the proximal small bowel.

Colitis: Parenteral darstine did not relieve the low abdominal cramping pain present in 6 patients. Six of these patients had proctosigmoidoscopically established chronic ulcerative colitis; 4 had nonspecific colitis as a roentgen determination. All etiological studies were negative. On the same program as exacted for the functional diarrheas in a four month follow-up, 1 patient was completely relieved with roentgen and proctoscopic confirmation, 3 were improved, and 6 remained essentially unchanged without endoscopic or radiographic change.

Impression.—Darstine is concluded to be an effective innocuous anticholinergic with constant upper gastrointestinal motility influence, variable antisecretory action and prompt pain alleviation (in upper gastrointestinal involvement). It is an efficient adjunct in the management of peptic ulcer probably as a secretory and motility inhibitor. It is possibly effective in curtailing hypermotility in the proximal small bowel especially where a gastric component is contributant. It is doubtful if an influence on the colon can be claimed.

The largest dose we have employed in any instance was 50 mg. parenterally and 250 mg. orally.

PAMINE

Compound U.-0382, (Upjohn), stated to be epoxytropine tropate methylbromide, is reputed to be one of the most potent anticholinergics under trial. Secretory and motor influence has been definite in experimental and clinical observation.[12] An anacidity production incidence on extremely small dosage is reported with sustained inhibitory influence by larger doses.[10c] Side effects with the reputedly effective oral dose have been reported frequent and severe.[13, 14]

The 10 individuals first evaluated were given 2 mg. intramuscularly. Xerostomia, mydriasis and tachycardia occurred to a

moderate degree in each patient with faintness and vertigo in two. There was no blood pressure variation and no respiratory disturbance. Dysuria was complained of by 2 but there was no true urinary suppression. The electrocardiograms showed a sinus tachycardia in all cases but there was no influence on the effort evaluation. Thereafter, each patient received 5 mg. ante cibum and 10 mg. on retiring, continuously, for thirty days. Detailed laboratory studies as conducted with darstine showed no pertinent variation. Xerostomia, unpleasant taste, mydriasis, vertigo, dysphagia, constipation, and tachycardia occurred in all patients but they could be persuaded to continue the regime. Abdominal distention occurred in 3 and dysuria in 2. No true toxicity occcurred. Xerostomia with dysphagia was the most disturbing complaint of the average patient.

Radiologic motility evaluation after 2 mg. of intramuscular pamine produced complete gastric atonicity in all 5 cases studied with retention of barium within the stomach beyond three hours in each instance. When the duodenum and proximal jejunum filled they were dilated and showed sluggish, and at times, reverse peristalsis. Barium transit into the colon was sluggish even at the sixth hour; no defecation reflex was excited. After thirty days on oral pamine a repetition of the study revealed slightly less dramatic and constant motility inhibition and much more effective curtailment of peristaltic activity than encountered with darstine.

Secretory inhibition after 2 mg. of pamine intramuscularly was evaluated in 10 patients. Anacidity was induced in 5 patients. Two individuals showed reduction in secretory volume and hydrochloric acid in excess of 50 per cent of the control figure. One patient showed a reduction beyond 25 per cent of the control. Two cases showed a variation within 10 per cent and were therefore considered not influenced. (Figure 2).

Duodenal Ulcer Patients: Pain relief was achieved by parenteral pamine in each instance with the suggestion of more prolonged action than darstine. The oral dose schedule was 5 mg. before meals and 10 mg. on retiring. A four month follow-up has indicated persistent troublesome but not contraindicative side effects. Although xerostomia is the most constant complaint, significant constipation occurred in 13 of these patients and in 9 was accompanied by abdominal distention.

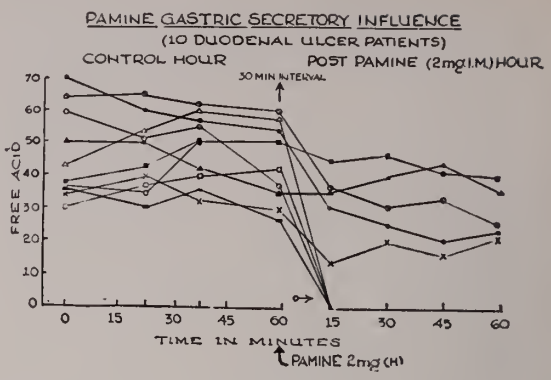

Figure 2

Therapeutic achievement: Complete symptomatic alleviation was claimed by 16 individuals; 3 had occasional recurrent symptomatology; 1 patient claimed no response. The radiologist reported complete ulcer healing in 10, crater disappearance in an additional 4, residual irritability in 4 and no change in 2.

Functional Diarrhea: Pain and peristalsis was promptly eliminated by 1 mg. of pamine in 5 patients so evaluated.

Of the 10 patients under observation oral pamine was definitely efficient in 7; recurrent symptoms, though of ameliorated severity, were present in 2. One patient was not improved. Actual constipation occurred in 4 patients. Radiologic evaluation showed the motility inhibition anticipated in all cases.

Colitis: Although there was some amelioration of diarrhea in 4 patients there was no instance of significant endoscopic radiologic change attributable to pamine.

Impression.—Pamine is a most potent secretory and motor inhibitor. The response in ulcer patients seems conclusively favorable. The functional diarrhea patients show an impressive improvement. Moderately severe side effects mitigate com-

paratively against pamine but do not in our opinion contraindicate its general usage.

The largest dose of pamine used intramuscular was 2 mg. Orally we have used a single dose as high as 20 mg.

RELTINE

Compound o. c. 1052-1678, (Sharp & Dohme) is designated chemically as 5-methyl-4-phenyl-1- (1-piperidyl-3-hexanol hydrochloride).[15] Readily absorbed on oral administration, it is metabolized slowly and may have an accumulative action. A tertiary amine, an antagonist of histamine and mecholyl induced motility, it is devoid of ganglionic blocking action and is primarily an antispasmodic. Toxicity studies confirm innocuousness; side effects are unusually mild and infrequent.

It was deemed of interest to conduct comparative studies with reltine hoping: (a) it would serve as a control; (b) reltine would indicate the motility inhibition component alone as influencing reaction; (c) darstine and pamine were not of sufficient influence to be of impressive clinical value in disturbances of colon motility.

The preliminary study in 10 patients with an intramuscular dose of 5 mg. revealed no alteration in the evaluative observation other than a single complaint of xerostomia. Thereafter, a schedule of oral administration of 5 mg. before meals and 10 mg. at bedtime was exacted for thirty days. The laboratory surveys at the two intervals indicated no untoward influence. The only side effect development in this group was transient vertigo in 3 patients.

Barium motility studies conducted after 5 mg. of reltine intramuscularly indicated a definite retarding influence. All 5 patients showed a mild degree of gastric hypomotility, delayed emptying, and moderate proximal small bowel dilatation. Transit time to the ileocecal area was somewhat extended but not beyond the fourth hour in each case. A review of these patients signified consistent efficient prolonged action by the oral administration over a period of thirty days. The motility influence at 5 mg. was not as marked or as consistent with reltine as with either darstine and pamine.

Secretory influence was not indicated in four consecutive studies after 5 mg. of reltine parenterally, or in two given 10 mg. of reltine. The secretory studies were therefore abandoned.

Duodenal Ulcer Patients: Ulcer pain was consistently, persistently (4 hours) and completely relieved by 5 mg. of reltine intramuscularly in 14 of 16 ulcer patients in acute typical ulcer pain. On a program with reltine, 5 mg, ante cibum and 10 mg. at bedtime, 8 patients have been rendered asymptomatic; 6 have improved; and 3 have persistent symptoms in a follow-up of ten weeks. No significant side effect has been recorded. In this brief follow-up, radiologic evaluation has indicated healing in 4, improvement in 6, and no change in 10.

Functional Diarrhea: During the period of study 10 patients with acute cramping diarrhea were available; all were promptly relieved by a single 5 mg. injection of reltine. In 6 individuals with chronic recurrent diarrhea all were symptomatically responsive to the oral administration of reltine 5 mg. before meals and 10 mg, at bedtime. Two cases improved and 2 remained unchanged. The radiologic studies, however, were not comparable with those of pamine and darstine since the motility change was not remarkable despite the symptomatic improvement.

Colitis: Parenteral reltine ameliorated the tenesmus present in 5 patients with chronic ulcerative colitis, was ineffective in 3 and gave some relief in 2. Of the 2 patients with the radiological interpretation of atypical colitis with spasm, 1 was completely relieved and in the other symptoms were ameliorated. There was no other symptomatic response. Diarrhea persisted. Radiologic and endoscopic findings were not appreciably changed in a four week follow-up.

Impression.—Reltine is a not too impressive motility inhibitor but possibly is an antispasmodic with greater influence on the distal small bowel and colon than is pamine or darstine. No secretory influence was obvious, yet a reasonable ulcer response was indicated.

In addition to the routine secretory study

in 8 active duodenal patients, histamine induced gastric stimulation was used instead of spontaneous secretion for the control. In 4 after fifteen minutes of aspiration, 1 mg. of pamine was given intramuscularly first, and when no inhibition of secretion had occurred in thirty minutes, 25 mg. of darstine was given. In the other 4, darstine was given first and pamine second. Neither drug abolished the histamine stimulated flow of free hydrochloric acid to produce an anacidity.

DISCUSSION

Consistent secretory inhibition to the extent of anacidity, or at least 50 per cent reduction, is not achievable with these drugs on single dose evaluation.

We plan multiple dose investigation both under oral as well as parenteral administration. The former administrative will be more practical since parenteral administration is hardly applicable to the management of the gastrointestinal entities under consideration. It is our impression that to date pamine in this limited study appears to be an efficient secretory depressant. Darstine, while less effective, gives less significant side effects and since tolerated well in increased dosage may demand more adequate appraisal. That antisecretory effect and toxicity are necessary correlants need not be true and is certainly not constantly so, in that some patients with the most side effects showed little or no secretory effect, while conversely, anacidity occurred in others without appreciable side effect. We are confused by the variability and inconclusiveness of secretory response. We are sincerely doubtful that, in humans, we can duplicate our results with any degree of consistency, with our present investigative mode.

The fact that reltine had no antisecretory influence whatever permitted it, to a degree, to have a control status. The relief of specific ulcer pain again brings into consideration the mechanism of this response which must be on the basis of an antispasmodic.

Again, as a motility inhibitor reltine was not as efficient as darstine or pamine, yet clinically gave a better therapeutic response in the management of functional diarrhea and ulcerative colitis. In view of lack of radiologic confirmation of impressive motility influence this must be again interpreted as an antispasmodic action possibly influencing "rhythmic contractions."

CONCLUSION

1. The newer anticholinergics, darstine, pamine and reltine are clinically evaluated as therapeutically efficient.

2. Darstine and pamine have variable but significant secretory influence. Our method of study is probably unsatisfactory but indicates factors beyond purely cholinergic influence.

3. Darstine appears inferior to pamine as a secretory inhibitor in this limited study. Darstine, relatively devoid of side effects on the trial dosage, deserves further evaluation at an increased schedule while intolerance contraindicates increase in pamine administration. Reltine has no secretory inhibitive influence.

4. Motility inhibition by darstine and pamine is impressive. Pamine is more potent than darstine. Reltine is not an impressive motility inhibitor. The symptomatic response of the three is however equivalent.

5. Clinically darstine and pamine are efficient drugs in the symptomatic control of ulcer pain while concomitantly achieving ulcer healing.

6. Continued study of these three products is indicated especially with oral administration since this would be the practical administrative mode.

REFERENCES

1. Quigley, J. P., Johnson, V., and Solomon, E. I.: Action of insulin on the motility of the gastrointestinal tract, Am. J. Physiology, 90:89, 1929.

2. Hollander, F.: The insulin test for the presence of intact nerve fibers after vagal operation for peptic ulcer, Gastroenterology, 7:607, 1946.

3. Dodds, D. C., Ould, C. L., and Dailey, M. E.: The effect of tetraethylamonnium chloride on gastric motility in man, Gastroenterology, 10:1007, 1948.

4. Brown, H. S., Posey, E. L., and Gambill, E. E.: Studies on the effect of tetraethylammonium chloride on gastric motor and secretory function in patients with duodenal ulcer, Gastroenterology, 10:837, 1948.

5. Posey, E. L., Brown, H. S., and Bargen, J. A.: The response of human intestinal motility to tetraethyl ammonium chloride, Gastroenterology, 11:83, 1948.

6. Youmans, W. B.: Neural regulation of gastric and intestinal motility, Am. J. Med. 13:209, 1952.

7. Wolff S., and Wolff, H. G.: Human Gastric Func-

tion, 2nd Ed. New York, 1947, Oxford University Press.

8. (a) McIlardy, G., Browne, D. C., Edwards, E., Marek, F.: An evaluation of banthine in ulcer management, New Orleans M. & S. J. 103:381, (March) 1951.

(b) McIlardy, G., Browne, D. C., Marek, F. H., McIlardy, R. and Ward S.: Clinical evaluation of methanthetine (banthine) bromide in gastroenterology, J. A. M. A. 147:1620, 1951.

(c) McIlardy, G., Browne, D. C.: Clinical appraisal of gastrointestinal antispasmodics, South. M. J. 45:1139, (Dec.) 1952.

(d) McIlardy, G., Bechtold, J. E.:Therapeutic advances in gastroenterology. 1. The anticholinergic drugs; motility studies evaluating prantal, J. Louisiana State M. Soc., 105:139, (April) 1953.

9. Longino, F. H., Gremson, K. S., Chittum, J. R., and Metcalf, B. H.: An orally effective quarternary amine, banthine, capable of reducing gastric motility and secretions, Gastroenterology, 14.301, 1950.

10. a. Kirsner, Jos. B., Palmer, W. L., Levin, E., and Klotz, A. P.: Gastric antacid and antisecretory drugs, Ann. Int. Med., 35:785, 1951.

b. Kirsner, J. B., Levin, E., and Palmer, W. L.: The effect of newer anticholinergic drugs upon gastric secretion in man, Gastroenterology, 23:199, 1953.

c. Kirsner, J. B., and Palmer, W. L.: Newer gastric anti-secretory compounds, J. A. M. A., 151-798, 1953.

11. Anticholinergic Compound 1575. Data furnished by Medical Division of Sharp & Dohme, Inc., West Point, Pa.

12. Vesscher, F. E.: Pharmacology of U.-0382. Data furnished by Medical Division, The Upjohn Co., Kalamazoo, Mich.

13. Personal communication from Dr. Julian M. Ruffin.

14. Personal communication from Dr. Jos. Kirsner.

15. Antispasmodic Compound 1678. Data furnished by Medical Division of Sharp & Dohme, Inc., West Point, Pa.

TRAINING FOR THE PRACTICE OF SURGERY*

JAMES D. RIVES, M. D.

NEW ORLEANS

Since the principal objective of this society is to raise the standards of surgical practice in Louisiana, since many of you—perhaps most of you—have sons or daughters whom you hope to have trained in surgery, and since a large part of my work is concerned with the training of surgeons, it seems to me appropriate that I should talk to you on this occasion about the training programs available and about their various merits and demerits.

When I completed my internship there were no programs for postgraduate training in surgery, worthy of the name, south of Baltimore. Conditions were better in some other parts of the country, but were by no means ideal. For example, in 1915, Da Costa said that he could count the pure specialists in surgery in Philadelphia on his fingers. I think it would be fair to say that so far as general surgery was concerned, one hand would have been more than sufficient for Louisiana. We had a considerable number of very able surgeons, but only a very few of them limited themselves to what is now defined as general surgery.

If one chose to enter this field in New Orleans, one had the choice of a preceptorship, or a house-surgeonship at Charity Hospital. There were preceptorships available that provided ample instruction and an opportunity for observation that was of great value, but they included little or no opportunity for personal management of cases including operation. The house surgeonships gave more than ample operative experience but little supervision, and they would not be approved by any of the rating boards at this time. I think it is well to remember, now that training programs are so strictly rated by national organizations, that both of these programs produced surgeons of the first rank. We should not forget, however, that such accomplishments represented the triumph of the individual over tremendous obstacles, and that such systems, or lack of systems, could never turn out enough good surgeons to supply the demand.

Some of us (of a certain age) tend to look back with nostalgia upon this period—"the good old days that never were"—as if it were a golden age. The truth of the matter is that it was very bad; that opportunity came to few and that only a few of these had the luck, hardihood, ambition, and intelligence to overcome the obstacles and become first-rate surgeons. We must also admit that most of these had reached middle age before they "arrived."

Much of the ambition and originality with which they started out had been beaten out of them before they became really competent, and by that time increased responsibilities made it necessary for most of them to devote their entire time to the grim business of making a living and providing for old age.

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*Presented at the Annual Meeting of the Surgical Association of Louisiana, November 16, 1952, at New Orleans, by Dr. James D. Rives, President, 1951-1952.

A few hardy souls made valuable clinical contributions gleaned laboriously from their own experience, but there were few opportunities for laboratory investigation available to men young enough to be productive. This state was notably sterile during the period when laboratory research was coming into its own in the field of surgery.

Now, many of us oldsters are inclined to sneer at "library" and "laboratory" surgeons. In our hearts we know that this is wrong; that our attitude is really a case of sour grapes. In the words of Montaigne "since we cannot attain it, let us rail against it."

Let us admit that this section of the country was, for a long time, largely parasitic in the world of ideas, though I think we can justly claim that we have used our borrowed ideas well.

Some of you will not be willing to accept this appraisal of the past of surgical training in Louisiana, but before you rise in wrath to contradict it, let me remind you that many of you have sons and daughters who plan to go into surgery. Do you really want them to be trained the way you were?

There are many ways to master this profession, and all ofthem have both advantages and disadvantages. Let us consider the various methods a student may use.

In the past, a considerable number of men have learned surgery alone and unaided, but it was then a much simpler field, and now it has become so complex that this method is impossible. It may be admitted that by assiduous reading, by visiting surgical centers, and by conscientious contemplation of personal experience, it is possible to become a good surgeon without formal training. But this requires high intelligence and a degree of industry rarely seen. It would be a pity to waste such intellect and quality of character in so unsatisfactory a program.

It requires either incredible stupidity, colossal egotism, or both, for a man to believe that he can originate in one lifetime all of the useful ideas that surgeons have conceived in the past 2,000 years. "Man is heir to all ages," but he must exert some energy to collect his heritage before he sets out on his career, and if he does not do so he is as foolish as would be a soldier who entered battle in the atomic age clad in a loincloth and armed with a club.

The pyramids were built with very primitive equipment and this no doubt could be done again. One must admire the ingenuity and force of character of the men who accomplished these miracles of construction without modern machinery, but it would be unbelievably silly for anyone to employ such methods in the twentieth century.

If you will agree that a reasonably quick and efficient way of training surgeons is highly desirable, let us proceed to consider the means available at this time.

THE PRECEPTORSHIP

A large proportion of the members of this society got their surgical training by preceptorship. This is an ancient method of training and many of the great surgeons of history have acquired their knowledge in this manner. There is much to be said for sitting at the feet of a master, provided, of course, that he really is a master; the pupil learns by observation the methods that have been found sound by a man of wide experiance; by direct association with a wise and understanding preceptor he acquires the knowledge that his teacher has accumulated through years of experience and study; he learns the mistakes that are likely to be made and the means of avoiding them, thus saving himself and his patients a repetition of these errors; and last but not least, he is exposed to the stimulating influence of a mature master surgeon. If this stimulation drives him to the library, to visiting other clinics, and to thoughtful deliberation upon his reading, the precepts of his teacher, and his own experience, he may finish his apprenticeship fully qualified in his specialty.

However, there are many weaknesses in such a program. The first of these is that it provides insufficient individual practice and the pupil is likely to lean upon his chief when decisions are to be made, and thus fail to learn to stand on his own two feet. He may complete such a program without

developing sufficient initiative to carry on in a practice of his own. He is likely to get all of his opinions from above and lose his capacity for independent thought. It is possible to spend a long time apprenticed to a strong and able character and learn almost nothing, except what is handed down from on high. No matter how competent the teacher, or how enterprising the pupil, the preceptorship tends to perpetuate the weaknesses of the teacher. Neither he nor the pupil are likely to devote enough time or thought to problems in which they have little interest. For example, a man apprenticed to me would probably end up very weak in gynecology and in surgery of the bones and joints.

I myself was trained by this method, but I had the great good fortune to be apprenticed to a genuinely great surgeon who was also a magnificent teacher. A man whose mind was always open to new ideas, who never tolerated complacency, who insisted that there were many sources of knowledge and that his apprentice should make use of all of them. A teacher who could not tolerate a "yes man" and who finally, when he thought I might be becoming too dependent, pushed me out of the nest. This was the preceptorship at its best. My preceptor, as most of you know, was Dr. Urban Maes.

At its worst, the preceptorship tends to develop clinging vines and "yes men" who have no place in the specialty of surgery, which demands that final decisions be made quickly and decisively, day after day. Surgery is no place for a Hamlet, and as valuable as long thoughtful deliberation may be in other fields (even in the field of surgery before operation), this attitude of mind is out of place in the operating room, where it is frequently better to make a decision, somewhat short of the best one, immediately; rather than to make the perfect one an hour later.

The preceptorship is no longer approved by any of the major rating boards and it may be that this is necessary, for reasons which I cannot go into at this time, but it is still possible for a man to become a good surgeon by this method, and that is far more important than having a diploma upon the wall. It is by no means necessary that all surgeons be approved by rating boards, although such approval has great practical value. The quality of the work that the man can do is the important thing, and few members of the Boards or of the College of Surgeons question this. A young man who is an independent thinker and a reasonably dissatisfied pupil may become a valuable member of the profession when trained by a master full of curiosity and humility, and I hope that local surgical societies, hospitals, schools, and other organizations who hold the future of these men in their hands will continue to disregard Board qualifications in the case of individuals whom they know to be competent.

RESIDENCIES IN PRIVATE HOSPITALS

Residencies in private hospitals are numerous and have many advantages. Such a residency provides the opportunity to observe and to help in the work of many able surgeons, rather than a single one. These men will often have diverse views on important matters and will supply widely different methods in both diagnosis and treatment. This is very valuable to the student, who must learn sooner or later that it is unwise to be too dogmatic, and that there are often many good means of accomplishing the same end. He profits by the mistakes of many surgeons rather than of one, and with all of his observations he should develop methods of his own that are a composite of the best that he has observed. This can be, and often is, an excellent method of surgical training. Its excellence will depend upon whether or not the staff men are teachers and whether or not the clinical material is adequate for his own individual experience.

Many such residencies have inadequate ward services for the residents' benefit, and provide inadequate opportunity to develop personal responsibility. Too often the resident is just a poorly paid surgical assistant or a glorified intern. No one teaches him, no one directs his reading, and no one sees that he develops an adequate knowledge of the basic sciences. He is just

a slave, a serf, or a convenient source of cheap help.

At its best, the private hospital residency lacks only the university atmosphere and extensive opportunity for individual operative experience (and in a good many instances this latter deficiency does not exist.)

There is still another advantage that should be mentioned. This is that in such hospitals, the apprentice learns to handle tax-payers as well as tax-spenders. Direct contact with people who can support themselves and help support the indigent of the community is an enlightening experience that every surgeon should have, and that is lacking in many university residencies. There is a tendency in some large charity services to think that there is something degrading about treating self-supporting citizens, and this atmosphere leaves the mind of the pupil too open to the idea of state medicine.

RESIDENCIES IN LARGE CHARITY HOSPITALS

Residencies in large charity hospitals are among the most popular of all methods of training because of some very obvious advantages. They usually provide ample experience in the handling of patients and ample technical experience. The best of them are under university supervision, and are very good indeed. In such instances the faculty of the medical school provides entirely adequate supervision. They have ample library facilities; they provide teaching experience for the residents, which is of the greatest value in training; they have planned student programs including staff conferences, journal clubs, instruction and experience in the basic sciences. The resident is in constant contact with new ideas and he lives in a very stimulating atmosphere. The effectiveness of such a program is limited only by the capacity of the pupil.

It must be admitted, however, that even the university supervised programs are sometimes deficient in almost all of the phases mentioned. The chief of the service appears in some instances not even to know how ignorant his residents are. This fact, as evidenced by letters of recommendation contrasted to actual performance on oral examinations, has been one of my most surprising and distressing observations in examining for the American Board of Surgery.

There are some very glaring weaknesses in many residencies of this type. Most of them fail to give the student sufficient opportunity to observe the work of the senior surgeons. The student tends to learn operative procedures and techniques from other students, who are also lacking in experience, and they tend to develop a high degree of complacency born of ignorance. A fair proportion of them become knife-happy "hewers of flesh and drawers of blood." The outpatient clinics and emergency services of these large general hospitals make such heavy demands upon the time of the resident that they interfere seriously with his opportunity for study.

The resident tends to develop a callous attitude toward the patient, who has no alternative but to accept what he gets or go home. He tends to lose the human touch and the concept that the object of all surgery should be the best interest of the patient, not of the operator. None of these obstacles is insuperable, and I think that we can say—all factors considered—that the large charity hospital under University supervision provides the best clinical training available at this time.

THE CLINIC FELLOWSHIP

A number of large private clinics have developed surgical fellowships that are much in demand,—and rightly so. They provide all of the advantages of the large private hospital, except wide variety of method, opportunity for the individual handling of cases, and technical experience. In addition, they have teaching programs comparable to those provided by the best universities.

The only really serious disadvantages in these fellowships are the lack of technical experience and the development of individual responsibility in the handling of patients. Their most annoying deficiency is that they tend to lead the fellow to believe that he is at the fountain source of all knowledge, and that all ideas and methods

not employed there are hardly worth considering.

This is a form of provincialism that tends to close the mind, dull the curiosity, stunt the intellect and render the individual socially and professionally objectionable. At its best, this type of training is very good indeed, but it must be supplemented by satisfactory training where the opportunity for personal management of cases is provided. Beware of the so-called clinic, where the fellow is merely a poorly paid surgical assistant or intern!

SCHOOL FELLOWSHIPS AND POSTGRADUATE COURSES

A number of universities provide fellowships and postgraduate courses designed to prepare students for surgery. They provide ample opportunity for laboratory investigation and require entirely adequate reading. They provide no clinical experience worthy of mention, but it must be admitted that much facility in technical methods may be developed in the laboratory on experimental animals. I must confess that I have a very low opinion of this type of training as preparation for the practice of surgery, except perhaps for one year. I feel that laboratory investigation in surgery preceding any clinical experience is premature, and will be far less rewarding to the surgeon than would be the same type of work after he had had a moderate amount of clinical experience. I hasten to add that if the fellow is looking forward to a career as an investigator or as a teacher, this type of training makes more sense.

It tends to develop an unwarranted reverence for the printed word and an almost complete ignorance of the vast amount of surgical knowledge that never gets into print. It is a form of vicarious experience which develops the idea that the execution of surgical procedures is very easy and hardly worth the attention of learned men. These fellowships are a breeding ground for intellectual snobs who lead such cloistered lixes that they are entirely unprepared for the realities of actual practice.

At best, they may stimulate curiosity and a critical faculty. They teach fundamentals by actual experience rather than vicariously. One or two years of such training may be of value, especially for a teacher, when topped off with clinical training under supervision.

THE UNIVERSITY HOSPITAL RESIDENCY

The residency system of teaching surgery originated in University Hospitals, and it is in such hospitals that the very best training is obtainable, even now, especially for individuals who look forward to a teaching career. I have no personal experience with the rarified intellectual atmosphere of such residencies, but it is written that "by their works ye shall know them," and I know a large number of men who were so trained.

At its best, the university residency is one of the best methods of training now available. Ample facilities for research are provided under the direction of experienced investigators who can guide the uncertain feet of the beginner. Basic science training is usually of a high order. Clinical work is closely supervised and is of superior quality. The resident usually has ample time for study and the facilities needed to make such study effective. Adequate clinical experience with graded responsibility is available, not in the quantity usually found in a large Charity Hospital, but so selected that not much time is wasted in the useless repetition of commonplace procedures. The resident lives in a stimulating atmosphere of ideas and intellectual curiosity, and if he has sufficient capacity there is no limit set upon his development.

But even the university residency has its deficiencies. It is geared to the exceptional student. It tends to develop intellectual snobbishness and provincialism. The effectiveness of the entire program depends upon the head of the department—his strength and his weaknesses. A few of these residencies provide inadequate clinical experience, especially when the teaching staff is full-time and likes to operate. The clinical material is selected to fit the interests of the professor and may be very lopsided in its emphasis. And finally, the professor may be so wrapped up in his own career that he pays little attention to the

work of his residents. He may favor worshippers and "yes men" rather than potential superiors.

THE STUDENT

In the final analysis, the effectiveness of all of these training programs depends upon the student. A young man of sufficient ambition, initiative, intelligence and industry can overcome the deficiencies of any method of training whatever. Conversely, even the best program will fail if the student lacks these qualities. Therefore, the selection of the student is one of the most important factors in the entire program. The fact that a father wants his son to be a surgeon, the fact that his uncle gave money to the university or is on the Board of Directors, the fact that his family, no matter how large, voted right in the last election, that his tribe has or has not lived in the community so long that the memory of man "runneth not to contrary," the fact that he is a nice boy, and good to his mother—none of these things has any important bearing upon his fitness for surgical training. It should be remembered, however, that this works both ways, and that the fact that the candidate is the son of a very objectionable politician does not necessarily mean that he will not make a fine surgeon.

For better or for worse, the training of these men has been entrusted to the staffs of approved hospitals, universities and clinics. Since these staff men have the very grave responsibility of training the future surgeons of the country, they should have the right to select the material that they will work with. It is still true that you cannot make a "silk purse out of a sow's ear," and they should not be asked to try. They are not supermen,—although some of them seem to think they are,—but the vast majority are earnest, conscientious, capable men who like to see young men grow to a stature greater than their own, and in this way they achieve a sort of anonymous immortality. If any of these men prove unworthy of your trust they should be removed from their positions, but so long as they do not, they should not have their hands tied.

I hope I have made it clear that there is no such thing as an ideal training program, and no such thing as an ideal student. All of the training systems available at this time are imperfect. I confidently expect that they will improve from year to year, and I devoutlly hope that we shall never be satisfied.

POLYCYTHEMIA VERA WITH GASTROSCOPIC OBSERVATION

DANIEL N. SILVERMAN, M. D.
MARJORIE DALE, M. D.
NEW ORLEANS

The association of gastrointestinal symptoms and polycythemia has frequently been noted in the literature. Clinically, peptic ulcers have been reported four times more commonly in patients with polycythemia than in normal individuals.

The following case is illustrative of the ulceration occurring in the upper gastrointestinal tract in polycythemia vera and includes an analysis of gastroscopic findings. A brief summary of the history and physical findings in this patient, follows.

CASE REPORT

A white male, 54 years old, was first seen on October 27, 1950, presenting a complaint of abdominal distention and vomiting two to three hours subsequent to meals. The vomitus did not contain blood. There was a history of a chronic nonproductive cough and a weight loss of 22 pounds.

Physical examination revealed a patient of emaciated appearance, with a markedly plethoric complexion. Temperature was 98°, pulse 96, respiration 20, and blood pressure 124/88. The heart and lungs were normal. Palpation of the abdomen revealed no abnormalities with the exception of tenseness in the epigastrium which could be ascribed to voluntary rigidity. On rectal examination, there was found to be a 1 to 2 plus benign enlargement of the prostate.

Microscopic examination of the blood showed hemoglobin 18.5 grams, (128.2 per cent); red blood count 7.28 million; white blood count 9,950 with a differential of neutrophiles 79 per cent, lymphocytes 20 per cent, monocytes 1 per cent. Hematocrit reading was 65 with a mean corpuscular volume of 90 c.mm., a mean corpuscular hemoglobin of 25.4 gamma, and a mean corpuscular hemoglobin concentration of 28.4 per cent.

From the Southern Baptist Hospital, New Orleans.

TABLE 1
BLOOD STUDIES

Date	Blood Count	Hemoglobin	Hematocrit	Remarks
11-24-50	6.62	17.5 Gm	64	Vomiting and abdominal distention
11-30-50			61.5	500 cc blood removed
12-2-50			55	500 cc blood removed
12-6-50	6.29	16 Gm	55	500 cc blood removed
12-8-50			47.5	500 cc blood removed Relief of symptoms
12-13-50	4.88	12.9 Gm	45	500 cc blood removed Asymptomatic
12-16-50	4.25	12.5 Gm	44	500 cc blood removed Asymptomatic
12-28-50				Therapeutic dose radio-active phosphorus
1-16-51	4.98	14.6	29	Asymptomatic
2-20-51	4.62	13.5	28.5	Asymptomatic
3-20-51	4.84	14.6	30	Asymptomatic
4-17-51	4.80	14.5	36	Asymptomatic
5-15-51	4.81	13.6	30	Asymptomatic
6-12-51	4.78	13.6	31	Asymptomatic
7-25-51	6.48	13.8	49.5	Nausea and vomiting 500 cc blood removed with complete relief of symptoms
7-28-51	5.08	12	41.5	Asymptomatic
8-7-51	4.52	13.2	31	Asymptomatic
9-4-51	4.83	13.5	28	Asymptomatic
10-9-51	4.67	13.6	29	Asymptomatic

Blood chemistry showed nonprotein nitrogen 37.5; uric acid 2.7; dextrose 110. Serological findings were negative.

The gastrointestinal examination revealed a stomach of a very long J-type, containing a moderate quantity of fasting secretion which interfered with visualization of the mucosal relief. A narrowing of a very short segment in the prepyloric region, approximately 3 cm. above the level of the pyloric canal, was eccentric and apparently due to a deep, spastic incisura on the greater curvature side. (Fig.1) The mucosal relief in this area was markedly disoriented, but was still maintained and no crater was visualized. Nothing else suggesting intrinsic disease was recognized.

On November 24, 1950, gastroscopic examination was performed and showed the antral mucosa to be deep red with several small, greyish white, depressed mucosal lesions. Pars media and fundus appeared normal. Diagnosis of chronic hypertrophic ulcerative gastritis was made.

Beginning November 29, the patient was phlebotomized serially until an hemotocrit reading of 45 was obtained on December 12; a total of 3,000 cc. having been drawn. Accompanying the reduction of the hematocrit to normal, the patient significantly become asymptomatic.

On December 28, a therapeutic dose of radioactive phosphorus was administered on the advice of members of the Pharmacology Department of the Lousiana State University School of Medicine, who specified that for proper treatment with radioactive phosphorus, the hematocrit reading should be reduced to within normal limits.

Fig. 1. Stomach showing eccentric narrowing of a very short segment in the prepyloric region.

Roentgenologic examination of the stomach on

December 27, revealed a healing antral gastritis with the antral shortening as noted previously. This agrees with the opinion of most workers that phlebotomy significantly alters the ulcerative gastrointestinal manifestation of this disease, but is also indicative of the fact that the infiltration of the antrum persists in remission. At this time the blood count was 5.07 million with an hematocrit reading of 30 per cent.

The patient continued in apparent good health and was asymptomatic until July 24, 1951, when an aggravated recrudescence of the initial symptoms occurred. The blood picture at this time revealed a 6.48 million red count with an hematocrit reading of 49.5. A single 500 cc. phlebotomy completely alleviated the symptoms. The patient has been examined since then at monthly intervals and found to have a normal blood picture and remission of the disease.

The gastroscopic findings in this case are similar to those reported in the literature. Baronofsky *et al*[1] reported a case of a 52 year old white male, in which gastroscopic examination showed hypertrophic gastritis, dark red color of the mucosa and superficial erosions similar to the ones noted in the case here reported. (Fig. 2)

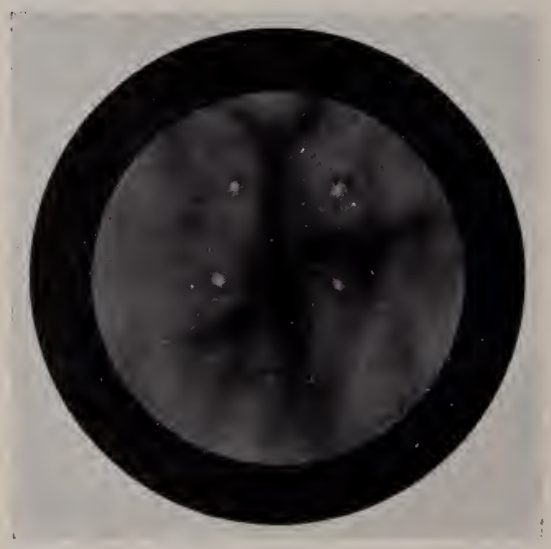

Fig. 2. Gastroscopic appearance in case of polycythemia vera showing multiple ulceration in antral segment.

Experimentally it has been promulgated by Wangensteen and others that the hemoconcentration of polycythemia does aid and abet the ulcer diathesis. The exact mechanism is unknown, but it has been shown by Trevan[3] that with increased hematocrit readings, the viscosity of the blood increases in almost a straight line. This, coupled with Pouiseville's demonstration that the rate of flow along narrow passages is inversely proportional to viscosity of fluid, would suggest stasis. As a matter of fact, it has been shown that in human beings with polycythemia vera the blood flow is greatly reduced. Stasis of blood will lead to poor nutrition of tissues. The gastric mucosa, in consequence to this stasis, readily succumbs to the erosive action of acid peptic digestive juices.

REFERENCES

1. Baronofsky, I. D. and others: The effects of hemoconcentration on the ulcer diathesis, Ann. Surg. 131:31 1950.

2. Boyd, William: The relationship of polycythemia to duodenal ulcer, Am. J. Med. Sci. 187:589 1934.

3. Trevan, J. W.: Viscosity of blood. Biochem. J. 12:60 1918.

4. Wilbur, D. L. and Ochsner, H. C.: The association of polycythemia vera and peptic ulcer, Ann. Int. Med. 8:1667 1935.

5. Tinney, W. S. and others: Polycythemia vera and peptic ulcer, Proc. Staff Meet., Mayo Clin., 18:24 1943.

MEDICAL SLIDE RULE

ESPECIALLY DESIGNED FOR MEDICAL AND PHYSIOLOGICAL LABORATORIES

J. T. PETERS, M. D.*

SODUS, NEW YORK

The need for a special slide rule, designed to facilitate calculations pertaining to medical and physiological laboratories, has been apparent for a long time. A great deal of time is saved, accuracy increased, and many mistakes are avoided in the use of the slide rule described in this paper. Direct readings can be made up to 10,000 by the use of a four cycle arrangement—1 to 10, 10 to 100, 100 to 1000 and 1000 to 10,000—which takes care of the proper placing of the decimal point. A slide rule of this design does not appear to be on the market.

Those unfamiliar with the basic use of a slide rule would do well to read one of the instruction booklets, available at almost any bookstore, paying particular attention to the explanation of the logarithmic scale. To those familiar with a slide rule, the ad-

*Visiting Professor of Medicine

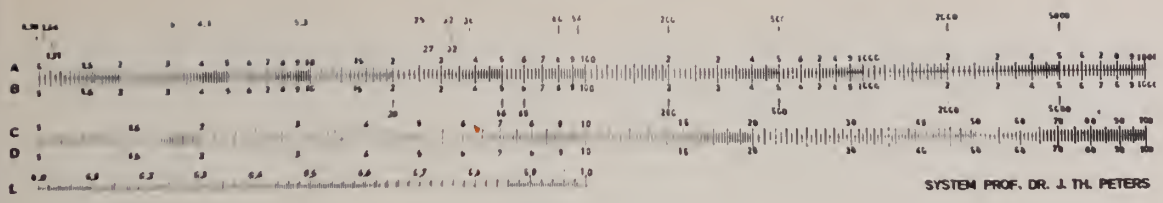

Figure 1

vantages of this special slide rule will be apparent from the following examples, described for a number of calculations frequently made.

HEMATOLOGY

The important mean corpuscular values described, in 1932, by Wintrobe, are frequently miscalculated with the result that diagnostic difficulties are increased rather than valuable information gained. On the slide rule the upper and lower limits of the mean corpuscular values are clearly marked, so that they can be seen immediately and without reference to charts, if the result is within normal limits. As examples, a few of such formulas follow, whereby these abbreviations are used: M = mean, C = corpuscular, HGB = hemoglobin, (in gm. %), HT = hematocrit, being the volume percentage, determined with the aid of a hematocrit tube, VOL. = volume, CON = concentration, Q = number of millions of red cells per cu.mm.

Then is M.C.HGB. = $\frac{10 \times HGB}{Q}$: M.C. VOL. = $\frac{10 \times HT}{Q}$

M.C.HGB.CON. = $\frac{100 \times HGB}{HT}$

For checking the color index (C.I.) should be added: C.I. = $\frac{HGB}{3\ Q}$. The normal limits of these values, which are printed on the special slide rule, are for the M. C.-HGB = 27-32 micro-micrograms; for M.C.-VOL. = 80-94 cubic microns; for the M.C.-HGB,CON. = 33-38 percent; for C.I. = 0.98-1.04.

ELECTROCARDIOGRAPHY

1. *Heart Frequency.* I saw in several heart stations, that it was a custom to estimate from a view on the electrocardiogram the heart frequency, in order to eliminate a time-consuming calculation. Overrating or underrating of the heart frequency was an every day occurrence. For that reason I printed on the special slide rule a mark at 25. Then it takes only a few seconds to read the exact frequency, if one uses the following simple method: Count the vertical lines between two successive R-Peaks. That number = a and the distances between the lines = 0.04 sec., then is x the heart-frequency in the formula $\frac{25}{a} = \frac{x}{60}$ If the distance between two R's has to be read in other units, only the number 60 has to be changed; whereas the figure 25 can stay and the mark on the slide rule can be used.

2. *Calculation of the QT interval.* There are several formulas for this calculation, one of them with a logarithm. All of these formulas can be easily calculated with the aid of the slide rule. However, the formula which is by far the most used, is that described by Bazett in 1918. If c = the cycle-length in seconds, then is the Q-T interval = $0.37 \sqrt{c}$ for adult males and children and $0.4 \sqrt{c}$ for adult females. The normal limits are 0.36 - 0.44 seconds for pulse frequencies between 57 and 92. With the slide rule it requires only a few seconds to calculate the length of the Q-T interval, which may give important information about the presence of myocardial damage, about calcium and potassium levels in the blood, and so on.

CALCULATION OF CALORIES IN DIETS

Nobody ignores the time-saving value of the use of slide rules for the calculation of calories in diets for the treatment of diabetes or for reducing diets. I decided to double the number of cycles on this special slide rule, because I saw several times that those who are not yet sufficiently accustomed to the use of slide rules, made bad mistakes by misplacement of a decimal

point. The highest figure on the slide rules which are on the market at the present time, as far as I could ascertain, is 100. Most of the figures of the number of calories in diets are above 100. On the special slide rule figures can be read up to 10,000, which makes it possible that every number of calories can be read immediately. In addition, the factors 4.1 and 9.3 are marked, so that it takes only a few seconds to read accurate results. At the same time, inaccuracy by the use of the simplified factors 4-4-9 is discarded. That this inaccuracy is often greater than would be expected is seen if one calculates the total calories of a diet. Example: A diet contains 295 gm. carbohydrate, 95 gm. protein and 110 gm. fat. It will produce 4.1 x 295 = 1209 calories, from the CH,4.1 x 95 = 389 calories from the P., and 9.3 x 110 = 1023 calories from the F. The sum of these calories being the total calories, is 2621 calories, whereas the factors 4-4-9 would only give as result 2553, a difference of not less than 68 calories.

ADDIS COUNT

I saw that with no formula many mistakes were made with calculations of this count, which Addis described in 1925. Often astronomical numbers were calculated. I put a special mark on the slide rule, namely 1.11. Example: Suppose the quantity of urine in twelve hours is 300 cc.; suppose 0.8 cc. remained in the centrifuge tube; suppose further that 9 red cells from 10 cc. well shaken urine are counted in 9 large squares of the hemocytometer. Then the Addis count is 1.11 x 300 x 0.8. x 9 x 100. One reads on the slide rule in a few seconds: 1.11 x 3 x 80 x 9, that is, 2500 and multiplies this by 100. The Addis count is then 250,000 red cells in the twelve hour sample.

CALCULATION OF THE RENAL FUNCTION TESTS

Also for the calculation of these formulas, the four cycles of this special slide rule, make the readings of the results much quicker and much simpler for persons who are not accustomed to work with slide rules. The frequent decimal point mistakes are excluded. As examples, to show immediately the great time-saving value of the use of the slide rule, the following are chosen:

1. Homer Smith Formulas. *Glomerular Filtration Rate.* Example of a case, examined with mannitol, where was found: the plasma concentration of mannitol = 1.0 mg/cc; the urine-volume/min. = 3 cc/min.; the concentration of mannitol in urine = 40 mg/cc; surface-area = 1.7 sq.m.; standard correction to surface-area = 1.73 sq. m. Then the *Glomerular Filtration Rate,* corrected to standard-surface-area, is:

$$\frac{40 \times 3}{1.0} \times \frac{1.73}{1.70} = 122 \text{ cc/min.}$$

Effective Renal Plasma Flow. Example of a case, examined with para-amino-hippurate(PAH), where was found: the plasma concentration of PAH = 0.02 mg PAH/cc; the urine-volume/min. = 3 cc/min.; the concentration of PAH in urine = 3.77 mg PAH / cc. Then the *Effective Renal Plasma Flow,* corrected to standard surface area, is

$$\frac{3.77 \times 3}{0.02} \times \frac{1.73}{1.70} = 574 \text{ cc/min.}$$

Just as quickly the value of the *Tubular Secretory Mass* can be calculated.

VAN SLYKE'S UREA CLEARANCE TESTS

Example of a case, where the volume of urine was below 2 cc. per minute (standard clearance) namely 0.81; the concentration of urea nitrogen in blood = 10 mg. per 100 cc. Then the urea clearance is:

$$1.85 \times \frac{600}{10} \times \sqrt{0.81} = 90\%$$

PETERS IODO-SECRETORY INDEX

(In the Archives of Internal Medicine of February 1941, Vol. 67 pp. 345-371, I proved that Van Slyke's urea clearances are often not reliable measurements of the renal function. Therefore I described in that article an iodo-secretory index). Example of a case: (Mr. H.) The urine/min. volume was less than 2 cc, namely 1.26; the iodine per 100 cc. of urine = 260 mg; the iodine per 100 cc. of blood = 11.8 mg; the estimated weight of the renal parenchyma = 250 gm. Then the iodo-secretory index is

$$40 \times \frac{260}{11.8} \times \sqrt{\frac{1.26}{250}} = 67.$$

Within one minute this formula can be calculated with the special slide rule.

CALCULATION OF THE BASAL METABOLIC RATE

If no slide rule is added to the apparatus, used for determination of the BMR, then

the following calculation can be made: If the actual consumption of oxygen per minute = 255 and the normal consumption of oxygen for the same age and sex = 280, then the difference between these values = 25. The formula can then be written BMR = $\frac{25 \times 100}{280} = -9$.

PROTHROMBIN CONCENTRATION

Example: If clotting occurred with patient's blood after 120 seconds and in blood of normal persons after 30 seconds, one may write:

$\frac{30}{120} = \frac{x}{100}$ x being the prothrombin concentration in percent.

CALCULATION OF SURFACE AREAS

Especially for these calculations, but also for others, I printed also the logarithmic scale on this slide rule. The logarithmic scale in addition to the 4-cycles on this slide-rule, makes it very simple to calculate such formulas in the shortest time. A few examples of these formulas show the need of the logarithmic scale:

Meeh-Dubois' formula of surface area in man: If A = square cm., W = Weight in kiligrams, H = height in cm., then $A = W^{0.425} \times H^{0.725} \times 71.84$.

Meeh's formula of surface area in dogs: If a = square meters and kg = kilograms, then is $a = 112 \sqrt[3]{kg^2}$.

THE CROSS-EYED CHILD ETIOLOGIC FACTORS IN HIS DEFECT*

GEORGE M. HAIK, M. D.
GEORGE ELLIS, M. D.
NEW ORLEANS

In order to understand fully the various etiologic factors responsible for crossed eyes, it is necessary to understand the essential steps in the development of binocular vision. There are two controlling mechanisms: (1) the extraocular muscles, which potentiate the movements of the eye; and (2) the sensory psychic visual apparatus, which is responsible for the formation of images on the retina, their transmission to the visual areas of the brain, and the blending of these bilateral images to form a single image. These delicately adjusted mechanisms are related to vision, fixation, and fusion. Their development was measured by Chevasse[1] and was later confirmed by Gesell and his associates[2] (Table 1.)

The normal process of visual development may be interrupted at any age, for a variety of causes. The first result of the interruption is a decrease in vision in one eye or both. The next usual result is the development of strabismus.

It is frequently necessary to determine whether a true strabismus exists. Children who have wide epicanthi or who present epicanthosis manifest pseudostrabismus.

Because the cause of crossed eyes is most often some muscular dysfunction, it is likely to be forgotten that there may also be other causes. This is an error which may have serious consequences. It may cause loss of vision. It may initiate highly undesirable psychic disturbances. It may even cause loss of life. Early diagnosis and prompt treatment are imperative if consequences such as these are to be prevented.

Three potentially lethal conditions may be associated with crossed eyes. In each the squint may be the first evidence of disease. They are brain tumor, retrobulbar tumor, and retinoblastoma. The latter is a highly malignant tumor of childhood, in which the eye shows a tendency to cross even before the characteristic gray, catlike retina can be seen shining through the pupil.

There are a number of conditions in which crossing of the eyes is present at one stage or another of the pathologic process and in which loss of vision may be the end-result. Among these diseases are:

1. Retrolental fibroplasia, in which crossing of the eyes is a late manifestation.

2. Congenital cataract, in which squint is occasionally the first manifestation. This condition, which is often associated with

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*Presented at meeting of the Orleans Parish Medical Society, April 13, 1953.

From the Department of Ophthalmology, Louisiana State University School of Medicine, New Orleans.

TABLE 1

STEPS IN DEVELOPMENT OF VISION*

	Visual Acuity	Fixation and Stability
Birth		Aimless movements
2 weeks		Momentary fixation.
6 weeks		Fixation held for few seconds.
5 months	20/2000	Exact fixation held.
6 months	20/1000	Normal field of fixation.
9 months	20/200	
2 years	20/45	Fusion reflex recognized; capable of complete extinction.
3 years	20/30	Fusion reflex established; deteriorates greatly from disuse.
4 years	20/25	Fusion reflex and visual acuity deteriorate from disuse; rapid recovery with re-use.
6 years	20/20	Fusion reflex and visual acuity more stable, may still deteriorate from disuse.
8 years		Fusion reflex and visual acuity unconditionally fixed.

*Modified from Lyle.[1]

nystagmus, may be monocular or binocular.

3. Congenital anomalies, of which strabismus fixus is an illustration.

4. Errors of refraction, in which loss of vision may result from nonuse of the affected eye. If fusion is normal, unequal refractive errors may not cause strabismus, because normal fusion can hold the eyes in alignment. If fusion is subnormal, or if it has not developed, crossing of the eyes may result.

5. Monocular blindness from any cause. If there is any latent muscle imbalance (phoria) present the blinded eye will usually turn, since fusion no longer operates to hold the eyes parallel.

The muscular dysfunctions which are the most common cause of crossed eyes are due to a variety of causes:

1. Congenital weakness of the muscles.

2. Hereditary strabismus, which may be inherited by the child even when it does not show in the parents. It may be present, instead, in the nondirect line of descent.

3. Loss of muscle tone from general disability. In such cases the squint tends to be periodic, disappearing when the child is in good health and emotionally stable and reappearing when he is ill, nervous or tired.

4. Childhood diseases. It is not uncommon to observe crossing of the eyes for the first time after measles, influenza, mumps or some other illness. In such instances the effect of the disease is merely to hasten the appearance of the squint. The latent weakness is already present and would have appeared sooner or later. This is not true of diphtheria, which affects the eye muscle directly.

5. Trauma (birth injury). This may occur during delivery and may become manifest or occur during the growth of the child. It may be the result of improperly applied forceps, but most often it is the outcome of spontaneous delivery. It has been estimated that in from a third to a half of all spontaneous deliveries the inevitable compression of the head during the process produces multiple tiny bleeding points within the brain. These minute hemorrhages, as a rule, are quickly absorbed. If for any reason they are not, it is conceivable that some cerebral disturbance may occur, which may result in permanent damage and crossed eyes.

In the search for the underlying factor responsible for the crossing of the eyes, it must never be forgotten that more than one cause may be present.

The serious psychic manifestations sometimes associated with crossed eyes may actually be more serious than the squint itself. The child knows that he is different from other children. At first he attempts to conceal his abnormality by special positions of the head. In the end, he may become a personality problem, with manifestations rang-

ing from lack of group participation to frank exhibitionism. We have one such patient under treatment at this time. Her squint first appeared at the age of 2 years, after she had measles. She is now 7. Conservative therapy was advised by a number of competent ophthalmologists and was carried out faithfully, but without success. In every instance, as soon as surgery was advised, the parents changed physicians. Now the child sees well, but she presents psychic problems and the parents are far more concerned about them than they are about her squint, for which they are now eager to accept surgery.

PRINCIPLES OF THERAPY

The therapy of crossed eyes must obviously begin with an identification of the causes, since they will determine the form which treatment must take. Therapy must be directed at the parents even before it is applied to the child. Parents must be made to understand that the problem is one of visual function, not merely one of appearance, as they so often incorrectly believe. They must be made to understand that unless the crossing of the eyes is of nervous origin, the chances of spontaneous cure are practically nonexistent. It must be explained to them that because the development of vision occurs early in life and is completed by the sixth to eighth year, there is no justification for the general belief that the correction of the squint may safely be deferred until the child is of school age, or even later.

Actually, if treatment is delayed and if obstacles to good vision are not corrected, irreversible anatomic changes may develop in the muscles. The overstimulated muscle on the deviating side becomes hypertrophic and fibrotic, as a result of constant contraction and spasm. The antagonist muscle becomes thinned and weakened, as a result of constant relaxation. If the anomaly is monocular, failure to correct it will result in early blindness from disuse, with abnormal retinal correspondence. If it is of the alternating type, the habit of alternating suppression may develop. In either event, the goal of fusion cannot be reached.

All crossed eyes do not require surgery, though nonsurgical measures are applicable only in selected cases. Furthermore, they must be carried out precisely, over long periods of time, if they are to succeed. If surgery is necessary, the particular procedure depends upon the etiologic factor or factors responsible for the anomaly. Whatever surgical or nonsurgical measures may be applied, the goal of therapy is to eliminate potentially fatal conditions, avoid psychic disturbances, and establish stable habits of binocular vision. The achievement of the goal of good binocular vision requires: (1) good vision in each eye, (2) good motility in each eye, and (3) proper alignment of the eyes during early childhood.

SUMMARY

A comprehension of the various etiologic factors responsible for crossed eyes requires an understanding of the essential steps in the development of binocular vision. Although the most frequent cause of the anomaly is some muscular dysfunction, it is a serious error to overlook the possibility that other causes may be responsible. Such an error may cause loss of vision, initiate highly undesirable psychic disturbances, and even lead to loss of life.

Possible etiologic factors in crossed eyes are discussed, and principles of therapy are outlined.

REFERENCES

1. Lyle, T. K.: Worth and Chevasse's Squint, ed. 8, Philadelphia, The Blakiston Company, 1950.
2. Gesell, A., Ilg, F. L., and Bullis, Glenna, E.: Vision; Its Development in Infant and Child. New York, Paul B. Hoeber, 1949.

DISCUSSION

Dr. George S. Ellis (New Orleans): Dr. Haik has pictured for us many of the causes of strabismus. In discussing his paper he has asked that I talk about the muscular aspects of strabismus and point out the relation of therapy to the development of vision.

The rational treatment of strabismus in children is based upon a combined knowledge of the development of normal binocular vision, how development of vision affects strabismus, and how strabismus affects vision.

Studies have shown that when a child is born he sees light but cannot follow it and does not have fixation. During the first few years of life he must learn to see just as he must learn to talk or to walk. Through learning and practice he develops

fixation, visual acuity, and fusion of the two images. The development of exact fixation is us ually achieved between the third and fifth months. As the child grows older he is able to fixate more quickly and hold fixation for longer periods. While good fixation is essential for the development of visual acuity, the acuity also improves the quality of fixation. The most rapid development of vision is during the first two years. At the end of that time acuity is 20/45. The visual acuity reaches 20/20 between the fourth and sixth year. The development of fusion becomes recognized at two years of age and is stable by the sixth year.

During the first few years of life the development of vision is labile. Any obstruction to its further development will cause its deterioration, and the child will develop abnormal visual habits. At the end of the sixth year the development of visual habits is usually complete. The visual habits are permanent regardless of whether they are normal and binocular or abnormal and monocular. Surveys have shown that 1 to 1.5 per cent of the children in a general population group have strabismus.

If strabismus has its onset after the age of six and there is good vision in each eye, the patient will complain of diplopia and will seek relief. When strabismus occurs prior to the age of six the child does not see double, but he learns to suppress constantly with his weaker eye and the vision in that eye deteriorates. He develops abnormal habits of vision and these become permanent if neglected. The longer they are allowed to remain the more difficult they are to change. The extra-ocular muscles develop irreversible changes which alter their action and limit the motility of the eye.

The therapist must establish good vision in each eye, good motility in each eye, and proper alignment of the two eyes as early in childhood as possible. He must destroy abnormal visual habits and teach the child normal habits in an effort to restore normal development. This demands great cooperation between parents and physician. It is important that the parents be adequately informed of the program of treatment since successful treatment can be greatly aided by intelligent parental cooperation.

The program of treatment is comparable to that of straightening teeth—a long period of treatment with periodic adjustments. The child must be kept under observation during the period of visual development and until the age when the development of visual habits has become complete and permanent. There is no rapid cure for strabismus. If the child has a refractive error it should be corrected with glasses so that he will have the maximum opportunity to develop his vision. In teaching the child normal visual habits, it is often necessary for him to wear a patch over his better eye for a period of several months so that he will develop better visual acuity and motility in his weaker eye. It is often necessary to prescribe atropine in one eye to discourage the child's preference for using it. Orthoptic exercises may be prescribed to teach and develop a good quality of fusion so that the two eyes will become welded in their position of proper alignment. Surgery may be necessary to restore proper alignment and motility.

It is essential that the treatment of strabismus be begun before the potentials of normal binocular vision are lost. If treatment is deferred until after six years of age the results will probably be limited to cosmetic improvement. Although this falls short of the ideal, it is of course a considerable gain because of the social and economic problems caused by being cross-eyed.

DIAPHRAGMATIC HERNIA THROUGH THE FORAMEN OF BOCHDALEK IN A NEWBORN INFANT

F. MICHAEL SMITH, JR., M. D.
THIBODAUX

Congenital diaphragmatic hernia is a serious lesion, which menaces the life of the newborn infant. In the young embryo the thoracic and abdominal portions of the body cavity communicate freely with each other. The ventral part of the diaphragm is formed from the septum transversum which separates the heart from the abdominal viscera. This septum is joined posteriorly by a proliferation of mesodermal cells at the upper end of the dorsal mesentery to make a bridge across the celomic cavity from front to back, but openings are left in both posterolateral parts of the diaphragm which are known as the pleuroperitoneal canals. These canals are later closed by a double-layered membrane, consisting of peritoneum on one side and pleura on the other. Striated muscle then develops between these two serous coats to complete and strengthen the partition between the peritoneal and pleural cavities.

The formation of the diaphragm is sufficiently complicated so that there is little wonder that congenital defects are apt to appear. If arrest in development occurs after pleural and peritoneal membranes have closed the defect, but before the muscle has appeared, the child is born with a thin hernial sac which covers the upward protruding intestines.

The most common congenital diaphragmatic hernia occurs along the pleuroperitoneal canal (the foramen of Bochdalek). The following is a case report of a successful reduction and repair of a pleuroperitoneal diaphragmatic hernia in a newborn infant.

CASE REPORT

Baby C. O., male child, was born at Saint Joseph Hospital, Thibodaux, La. at 6:00 A. M. on March 2, 1953. The mother, age 26, was in good health. She was a gravida 3 para 2, and her maternal serology was negative. This was a normal spontaneous delivery. The infant breathed readily and required no special efforts toward resuscitation. His birth weight was 7 pounds 2 ounces.

The infant was taken to the newborn nursery and placed in a basinet. During routine procedure of cleaning and clothing the nurses noted that the child became cyanotic. He was placed in a Gordon Armstrong incubator and oxygen was administered, whereupon the color immediately improved and all signs of respiratory distress disappeared. At 12 hours of age he was removed for his first feeding. The feeding was never given for the child again became cyanotic. He was immediately returned to the incubator where oxygen was resumed.

At noon, on March 3, 1953, the attending physician asked for pediatric consultation and at this time the author first saw the patient. On physical examination one noted a well developed, well nourished, white male infant who was having obvious respiratory distress. The breath sounds over the left hemithorax were completely absent. No murmurs were heard. The abdomen was flat and did not present the usual tympanitic sound on percussion. The liver margin could be felt approximately 2 cms. below the right costal margin.

An x-ray of the chest was ordered, (see Fig. 1).

Figure 1

This film revealed a gas bubble in the stomach and a small gas bubble in the lower pelvic region. There was an opaque mass in the left infralateral portion of the left chest. The superior portion of the left lung field revealed multiple small rounded cystic structures. The heart and great vessels were displaced completely into the right chest region. The right lung was markedly compressed. From this film alone the diagnosis of diaphragmatic hernia with intrusion of abdominal contents into the left thoracic cavity was immediately suspected. One ounce of thin barium mixture was prepared and given by a nursing bottle. The infant was placed in deep Trendelenburg position and observed fluoroscopically. The mixture was seen to enter the stomach and sometime later proceed into the small bowel, where it gravitated into the left thoracic cavity. Spot films were made and one x-ray. (See Fig. 2). This film revealed barium filled

Figure 2

intestines in the left chest. The patient was returned to the nursery, placed back in the Gordon Armstrong incubator in reverse Trendelenburg position with his left side down. Blood was drawn for typing and matching and 400,000 units of penicillin were given intramuscularly. At 3:30 P. M. sodium luminal, grains 1½, and atropine, grains 1/1200, were given intramuscularly. At 4:30 P. M., the patient was taken to surgery, where reduction and repair of a diaphragmatic hernia in the left posteriolateral portion, through the foramen of Bochdalek was done. The entire gastrointestinal tract with exception of the upper two thirds of the stomach and the distal segment of the lower colon had entered the left chest cavity. Immediately, postoperatively the infant was taken to the radiology department for fluoroscopic examination. During this procedure the infant became cyanotic and respirations ceased. Air was aspirated from

the left chest by a 20 gauge needle and syringe. Oxygen was administered by a positive pressure closed system. Respirations were reestablished and the color improved. A continuous intravenous drip was set up in the scalp veins and 10 cc. per pound body weight of whole blood was given, followed by 200 cc. of normal saline and sufficient 5 per cent glucose in distilled water to give a total fluid intake of 75 cc. per pound of body weight for a twenty-four hour period. The patient was placed in the Gordon Armstrong incubator with the continuous drip running in the scalp veins, and Triton WR 1339 was administered through a standard aerosol technique. At 2:30 A. M. on March 4, 1953, the baby became cyanotic and respiration was labored. An emergency film of the chest was made which revealed a marked left pneumothorax. (Fig. 3). A 20 gauge needle was again inserted into

Figure 3

the left pneumothorax and secured in place by means of a hemostat. The plastic tubing from a disposal Baxter intravenous drip set was attached to the needle on one end and to a water trap on the other. By this means the tension pneumothorax was reduced. Approximately twelve hours later at 2:00 P. M. on March 4, 1953, repeat films were made with lateral and AP views which showed the lung on the left to be almost completely re-expanded. A Levin tube had been inserted through the esophagus for the purpose of gastric suction to relieve abdominal distention. (Fig. 4). The needle was withdrawn from the chest at this time. The patient returned to the Gordon Armstrong incubator where Triton WR 1339 was administered until 6:00 A. M. of March 5, 1953. At this time 5 per cent glucose in distilled water in amounts of 15 cc. was begun orally. The patient had several meconium stools, which now began to show traces of barium when

Figure 4.—Lateral

Figure 4.—Anteroposterior

the diaper with the stool was viewed under the fluoroscope. On auscultation of the abdomen, normal bowel sounds could be heard. At 4:00 P. M. a repeat film revealed lungs almost completely expanded and normal cardiac position. (Fig. 5). At 12:00 noon, March 5, 1953, a milk formula of evaporated milk 1 oz., boiled water 2 oz., white Karo 1 teaspoon, was begun in the amounts of 30 cc. every three hours. A second injection of 400,000 units of penicillin was administered intramuscularly. The infant began to nurse well and had a completely uneventful postoperative course, from then until discharged from the hospital on March 14, 1953.

Figure 5

COMMENTS

When a sufficient intrusion of abdominal contents into the thoracic cavity has taken place, cyanosis will often become so severe that, as in this case, it is the predominant symptom. The classical symptoms of diaphragmatic hernia in a newborn infant are cyanosis, dyspnea, and vomiting. Vomiting may be only occasional or may be associated with almost all food ingested. The amount of dyspnea is directly proportional to the amount of reduced vital capacity. On physical examination, both the respiratory rates and the pulse rates are increased. By inspection, the affected side of the chest will move less than the normal side. On percussion of the chest the side of the hernia may be either dull or tympanitic, depending upon whether the viscera which have intruded into the pleural cavity contain fluid or air. On auscultation, the breath sounds are either distant or absent.

X-ray studies are of the greatest importance. Many authors feel that barium studies should be omitted if possible. However, if there is any doubt as to the true nature of the pathology involved, a few swallows of thin barium will usually visualize this defect, so as to erase all doubt.

Obviously, the treatment of choice is immediate surgery. There is nothing to be gained in waiting or observation. Many authors feel this has been responsible for the loss of a great many children who might otherwise have been saved. An infant in the first forty-eight hours is in a better position from a standpoint of fluid balance to withstand the shock of surgery than at the end of a week, during which time physiological weight loss, icterus, and reduction in hemoglobin take place. In this case herein presented we were definitely impressed with the use of Triton WR 1339 as a means of combating the postoperative atelectasis. During the procedure the operator inserted a catheter through the defect in the diaphragm to the pleural cavity for the purpose of injecting air to facilitate the return of the abdominal viscera. This positive pressure remained in the left thoracic cavity after the defect was closed. The use of the needle and water trap was a life saving procedure in reducing the postoperative tension pneumothorax in this case.

If these lesions can be diagnosed early and adequate surgical correction done, the result should be good. In the immediate postoperative period, blood should be given to combat surgical shock, but careful attention to the rate of fluid administration is mandatory so that no undue strain will be placed on the right side of the heart. The room air which has been trapped in the pleural cavity by the closure of the diaphragm, was best removed in this case by the use of the water trap. The continuous administration of oxygen therapy and Triton WR-1339 mist helps in the re-expansion of the compressed pulmonary tissue. Oxygen also aids in deflation of intestines. The use of a small Levin tube will combat gastric distention. In twelve to twenty-four hours postoperatively fluid may be started per os with caution.

SUMMARY

A case of congenital diaphragmatic hernia through the foramen of Bochdalek has been presented. The embryology and classical clinical findings have been reviewed. The apparent beneficial results from the use of Triton WR-1339 mist therapy were discussed, along with other measures necessary to adequate postoperative care. The

importance of early diagnosis and surgery was stressed.

REFERENCES

1. Ladd, W. E., and Goss, R. E.: Abdominal Surgery of Infancy and Childhood, Philadelphia, 1941, W. B. Saunders Co.

2. De Nicola, Vracin: Diaphragmatic hernia through the foramen of Morgagni, J. Pediat. 36:100, 1950.

3. Weiner, L. R., and Richmond, J. B.: The diagnosis of surgical conditions in the newborn infant, J. Pediat. 36:112, 1950.

4. Miller, J. B. and Boyer, E. H.: A nontoxic detergent for aerosol use in dissolving viscid bronchopulmonary secretions, J. Pediat. 40:767, 1952.

AS A LAYMAN SEES IT!*

JAMES Y. BOWEN
NEW ORLEANS

It seems that almost since I can remember, my work has brought me in close contact with the medical profession and in recent years as a hospital administrator this association has been a direct one. Contrary to the old adage that "familiarity breeds contempt," I find my attitude toward the profession to be one of continuing, and growing admiration and respect.

Naturally, I have been very much interested in developments in recent years with regard to socialized medicine, compulsory health insurance, and the like.

I believe that in this struggle the medical profession has been much maligned. That the medical profession has, so far, been successful in this fight speaks well both for the profession itself and for the good sense of the general public as well. However, it is most distressing that a profession embodying such high ideals and standards, and engaged in a purely humanitarian work should ever find itself having to wage such a battle.

Why? This is the question I want to discuss briefly.

I am sure that the profession itself would be the first to admit that there are many problems yet to be solved and, as in other fields, there is room for improvement. However, I do not believe that these shortcomings, whatever they may be, are primarily responsible for the predicament in which the profession found itself in this fight—that of being on the defensive.

Certainly, the record of the profession is one of outstanding progress and growth over the years and there is no question that there is better medical care available today for more people than ever before. Why is it then that this movement toward government medicine should get such strong support?

I believe it is a matter of public relations primarily. Now, I realize that all these things have probably been said before and that this idea is not new. Fortunately, there seems to have been a general awakening to the problem in the medical, hospital, and allied fields. I think the outstanding example pointing up the need lies in the extremely poor press accompanying the action of the AMA a few years ago in employing a public relations firm as counsel and in making the extra assessment for this purpose. Certainly, this public relations firm did an outstanding job—its immediate purpose was accomplished—but I wonder if it was not really a job of expediency and not necessarily intended as the long run approach to the broader problem.

At this point I want to say that I am by no means posing as a public relations expert. My position is merely that of an interested layman and it is my hope that the viewpoint of a layman may be of some interest to this group. I have not conducted any survey of any kind but I have been very much interested in some of the "griping" I have heard, and particularly in the attitudes one finds.

Of course, the financial angle always gets its share of comment and discussion. According to some people the doctors are all making too much money—getting rich; hospitals are all gouging the public; and the average person just cannot afford to be sick for more than a day or two. (I wonder if he ever could).

Most certainly, this financing of medical care can be, and oftentimes is, an acute problem, particularly in certain individual cases. However, when we look at the figures on cost trends in recent years, we find

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that medical costs (fees, that is) have not risen as much as the average increase in the cost of living index. Too, it is interesting to note that in 1950 the amount expended for physicians and hospital care was only a little better than 3 per cent of the national income. I believe this percentage will compare favorably with the same information of fifty years ago. It might also be of interest to compare the amount spent for medical care with the amount spent for whisky and cigarettes. Certainly, there are many people constantly spending a great deal of money—probably a lot more than they spend for medical care—on things that not only are not necessary but often are not even worthwhile.

So much for the general picture. Let's take a look at the charge that doctors are making too much money. In a free country such as ours this charge raises a lot of questions, but the thing of interest here is the implication that the doctors charge too much for their services—fees are too high.

Now, I am sure that there does exist the matter of the exorbitant fee, but I am equally sure that this is the exception rather than the rule. That it exists at all though is of grave concern to the medical profession because such practice does damage the profession generally.

The principle that "the laborer is worthy of his hire" is long and well established and applies to the physician the same as to anyone else. Assuming that his fee is reasonable and his service good, is there any reason why the physician should not expect his patient to pay just as willingly—yes, even gladly—but certainly as willingly, as he pays for anything else. While there may be a lot of people who do begrudge the money they spend for the doctor's services, I do not believe the majority feel that way at all. However, I do wonder if even among the majority this is not often a sort of negative feeling about the expense. In some ways this is not hard to understand because everyone naturally looks on an illness —mild or serious—as a misfortune, and I suppose some of this feeling attaches itself to the doctor's bill. Although, certainly, an ill person is mighty glad to see the doctor at the time.

In spite of this handicap, I wonder if there is not some way to promote a positive feeling about paying the doctor. When the patient received his bill would it not be wonderful if it brought to mind the feeling of "How good it is to have a doctor available when I need him"; rather than "Man, it sure is terrible to be sick, I'll never get through paying for it." Maybe that is asking too much of human nature, but when we think of the possible consequences of many even minor illnesses or injuries, we wonder that people don't always feel positively good about the doctor's bill.

People are paying for services, buying things—radios, TV sets, automobiles, telephones—all sorts of things that more often than not are luxuries—and bragging about it. Can any of these things compare with what the physician offers his patient? Certainly not, and there is surely some way to get the patient really to appreciate what he is paying for when he pays his doctor's bill.

We hear a great deal these days, too, about the cost of being hospitalized; and certainly, no one can deny that hospital costs, both dollarwise and percentagewise, have increased considerably.

Although the individual bedside attention may not be quite what it once was, hospital equipment and facilities have been vastly improved. This equipment and these new facilities are terrifically expensive and often require additional trained technical personnel.

Also inflation has made itself felt not only in increased costs but in the shrinking value of endowment funds as well. Because of this and the fact that big donors and benefactors are becoming more and more scarce, many hospitals are faced with the problem of providing funds for replacement of obsolete equipment, etc., when in the past they were able to do this through income from endowments or could call on some wealthy friend of the hospital for a special donation. Salaries of personnel have had to be increased and, even so, I am not sure they have kept pace with other fields. And there

are many other changes and increases. All of these things cost money, and they add up to a lot of money, too. For most hospitals there is only one place to get it—the patient.

But, as was pointed out, costs have risen in practically every field. So, I doubt if increased costs alone can account for the complaints we get about hospital bills. Could it be that there is a lack of understanding and appreciation of the hospitals also? I daresay some of you here tonight have wondered why hospitals have to charge so much. However, I believe investigation will show hospital charges generally to be reasonable and in line with costs.

The hospital and the physician are interdependent, to a greater degree today than ever before; and hospital costs being an integral part of this whole problem, it seems to me important that the physician should have some understanding of the problems of the hospital in which he practices, and vice versa. Thus, the doctor would be in a much better position to discuss hospital charges with his patients and possibly aid in preventing misunderstandings and complaints. The hospital has just as difficult a time getting its story across as does the doctor. And a patient dissatisfied with his hospital bill might be more readily inclined to be disgruntled about something else.

In considering this matter of the cost of medical care, I cannot help wondering if both the doctors and the hospitals have not been on the defensive and guilty of negative thinking. If the doctors and the hospitals give value received—and I believe they do—then, there is surely some way to get the story across.

There are, of course, questions other than financial ones that come up, such as: complaints about having to wait so long in the doctor's office; difficulty in getting a doctor nights and week-ends; difficulty in getting a doctor to make house calls; and so on. How much justification there is in these complaints generally I am not prepared to say. But, from the patient's, and the public's point of view they are very important, and are therefore of concern to the doctors. Is there not something that can be done to eliminate such complaints, or at least cut them to a minimum?

Not long ago, in a meeting, when told that the medical society had given its support to something, a public relations man made this remark; "What? I never heard of them being *for* anything—always *against* something." I have never heard anyone else make such a statement but it is bad if even one person has that impression. And, if he had it, it is at least possible there are others with the same feeling. Certainly, it might be possible to believe, from some of the publicity we see, that the medical society is solely a self protection organization. I am sure this is not true and I wonder if there is not some way the medical society can make its good works known. Of course, the individual doctor cannot advertise (and this is certainly as it should be) but surely the Society can give some publicity to its activities.

This brings me to another comment which I have heard on more than one occasion—that doctors are poor contributors. This is with reference to financial contributions to the various social agencies and charitable organizations. Now, I have made no study of this and do not know just what the facts are. But I am sure the doctor usually feels that he gives sufficiently of his time to direct charity in his work that he does not expect to have his contribution of money compared with those who render no such service.

Also, we hear the complaint that the doctor does not give his time to civic activities as generously as he should—that he isolates himself in the community in this respect. If this is true, it may be worth some serious consideration. Certainly, the doctor usually has his hands pretty full and there is no question that his time for such activities is limited. Extremely so when compared to the man who considers it an integral part of his business to participate in as many of these activities as possible. However, what is good public relations for one field might also be in another. I wonder if the medical

society itself might not be able to assist in dispelling such impressions.

Is there anyone in Alexandria who knows how much time the doctors of this parish—collectively—devote to charity each month? How many patients are seen without charge? Does anyone know how many doctors devote some of their time to civic affairs? And how much time they give? Does anyone know how much time is given by doctors to hospital staff meetings? Clinical conferences? Scientific and other meetings that add to their knowledge as physicans or promote the general health of the community?

I believe this kind of information would be of general interest to the community. It might even be of interest to the profession itself. I cannot help feeling that if the people had the facts they would realize—if they do not already—that the Medical Society and the doctors are very vital and integral parts of the whole community.

In considering these complaints and problems, I think it is obvious that, by and large, they are the result of misunderstanding, and thus problems of what is usually called public relations.

It is an accepted fact in the business world that selling a service, or an intangible is often the most difficult selling there is. I do not mean at all to compare the practice of medicine with the ordinary business enterprise, but the things we have been talking about here are intangible.

However, it seems to me that the medical profession enjoys a most enviable position in this respect. How many times have we heard statements to the effect that "Good health is to be desired above almost everything else," and that "If I can just keep my good health (or get it back), I won't worry about anything."? Consider this thinking along with the fact that the physician renders a service of the utmost importance in our daily lives—physically, mentally, economically, a service that, by its very nature, is dramatic. Could there possibly be any better or sounder basis for a program of good public relations?

In this discussion I have not intended to leave the impression that I think the medical profession is in a bad way. On the contrary, I believe it enjoys the highest confidence and respect generally, and this is well deserved. I do feel though that it has not always enjoyed the best possible public relations—that this has been somewhat neglected. And if there is anything I have said here tonight that will serve to assist in this problem, I shall feel justified in taking your time.

The Journal of the Louisiana State Medical Society

Established 1844

Published by the Louisiana State Medical Society under the jurisdiction of the following named Journal Committee:

W. E. Barker, Jr., M. D., Ex-Officio
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C. M. Horton, M. D., Vice-Chairman
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J. W. Faulk, M. D.
H. H. Hardy, M. D.

C. Grenes Cole, M. D.....*General Manager*
1430 Tulane Avenue

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OFFICERS OF THE LOUISIANA STATE MEDICAL SOCIETY FOR THE YEAR

At the Seventy-third Annual Meeting of the Louisiana State Medical Society, at New Orleans, May 7-9, 1953, officers were selected for the coming year. The House of Delegates exercised its usual care and wisdom in the choice, and the members are to be congratulated on its selection of physicians for these posts of honor and responsibility.

The President, Dr. Philip H. Jones, has served the Society in various other capacities. He is probably sufficiently well known to the readers of these columns in recent years.

The President Elect is Dr. Walter Moss of Lake Charles. Dr. Moss has been an effective leader in his Parish and District Society. He served as House Surgeon at Charity Hospital, and rendered valuable assistance as a public citizen in the work of the State Hospital Board. He will bring to the presidency mature judgment and professional good will which will be most valuable. His appearance on the Executive Committee at a time when the affairs of Medicine continue to be in a state of flux will add a most stabilizing influence.

The First Vice President is Dr. C. J. Brown of New Orleans. Dr. Brown has long been active in the affairs of the Orleans Parish Medical Society, has served as its President, and in recent years has been Chairman of the important State committee on Public Policy and Legislation.

The Second Vice President is Dr. Kernan Irwin of Baton Rouge. Dr. Irwin has long been active in the affairs of the East Baton Rouge Parish Medical Society. The Executive Committee will be most fortunate in having a member with his poise, judgment, and professional ability.

The Third Vice President is Dr. Milton Maxwell Hattaway, a well known surgeon of New Orleans. He has devoted his efforts for the Orleans Parish Medical Society in various capacities and directed the Committee on Public Relations and Medical Service with very great benefit to the Society for a period of years. His addition to the Executive Committee will be a source of help.

As the Chairman of the House of Delegates, there is a change. Dr. A. V. Friedrichs declined nomination. The members of the Society and the members of the House of Delegates owe him an outstanding debt of gratitude for his many services in various capacities in the field of organized medicine, and particularly, for his valued counsel on the Executive Committee and his masterful direction of the House of Delegates for many years. The profession appreciates his long services. Elected to be

Chairman was Dr. Robyn Hardy. Dr. Hardy is a busy surgeon of New Orleans. He served with distinction in the armed forces and has been active in the affairs of the Orleans Parish Medical Society, and has acted as Chairman of the Committee on Public Relations and Medical Service of the State Society. His efforts have been most effective and his actions for the organization most beneficial. We are fortunate in having in this most important position an officer of vision and decision.

The Vice Chairman of the House of Delegates is Dr. Ralph H. Riggs of Shreveport. Dr. Riggs is an eminent specialist in the field of Ear, Nose, and Throat, and has long been active in the interests of organized medicine in the Caddo Parish Medical Society of which he is President. He will be of great assistance in the deliberations of the Executive Committee, where his mature counsel will be an asset.

Dr. C. Grenes Cole continues his term as Secretary and Treasurer. His sagacious counsel, ripe experience, and broad contact with both professional and legislative aspects of medicine add even greater worth to his qualifications for this position. The whole operation of the Society's affairs and the conduct of the annual meeting are a tribute to his mature judgment and capacity as a leader. The members of the profession are most fortunate in having him continue in so vital a position.

The Council in the coming year remains the same. As the complexities of medicine and the responsibility of the Society increase, the duties of the Council become more arduous. The membership and the public look to it as a mediatory and judiciary body which functions most admirably as a clearing house for complaints and conflicts. The Council is to be commended for its efforts along these lines in recent years. The membership should feel it as their own responsibility and their privilege to cooperate with the Council in the adjustment of differences within the profession and with the laity.

The officers and Executive Committee of the Society face a difficult year. There are many matters in which the public relations of organized medicine need to be improved. It is anticipated that the vicious bill to license the chiropractic in this State will again be presented to the legislature. The campaign to this end has already been initiated by the adherents of this cult. Louisiana is one of the few states which still holds out against allowing such quackery to be licensed. The profession in Louisiana is embattled with a nationwide organization of those who speak of themselves as chiropractors. These chiropractors are waging a campaign to have themselves admitted as practitioners in the armed services and in the Veterans Adminstration. It is of vital interest to the profession to prevent the passage of any chiropractic-licensing bill in Louisiana.

In the discharge of these arduous duties, the officers look to the hearty cooperation and active assistance of the membership of the Louisiana State Medical Society.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

REPORT OF COMMITTEE ON RESOLUTIONS

House of Delegates
1953 Annual Meeting
New Orleans, Louisiana
Gentlemen:

WHEREAS, great courtesy has been extended to the Louisiana State Medical Society and its Auxiliary, assembled in convention at the Roosevelt Hotel in New Orleans, May 7-9,

THEREFORE, BE IT RESOLVED that the Louisiana State Medical Society expresses its sincere gratitude to the following individuals for making this meeting a complete success.

Dr. C. J. Brown and personnel of all Committees on Arrangements.

All members of the Orleans Parish Medical Society, hosts to the meeting.

Rev. Father Edward F. Murphy for the Annual Oration delivered at the Opening Meeting.

Hon. Thomas M. Brahney for words of welcome on behalf of the City of New Orleans.

Dr. George F. Lull, Secretary-Manager of the American Medical Association, and Mr. Thomas .A. Hendricks, Secretary of the Council on Medical Service of the AMA, for addresses delivered and exhibit displayed.

Dr. Sam Hobson and Dr. A. V. Friedrichs, for expressions of welcome on behalf of the Orleans Parish Medical Society and the New Orleans Graduate Medical Assembly.

Following-out-of-state guests who participated in the Scientific Program: Dr. Willis E. Brown, Little Rock, Arkansas; Dr. Frank A. Donaldson, Jackson, Mississippi; Dr. Alexander Keller Doss, Fort Worth, Texas; Dr. Joseph Felsen, New York, New York; Dr. D. O. Ferris, Rochester, Minnesota; Dr. Robert P. Glover, Philadelphia, Pennsylvania; Dr. Ebbe Curtis Hoff, Richmond, Virginia; Dr. Charles Hooks, Galveston, Texas; Dr. Christopher Parnall, Jr., Rochester, New York; Dr. Meyer A. Perlstein, Chicago, Illinois; Dr. Edwin L. Prien, Boston, Massachusetts; Dr. Edwin L. Rippy, Dallas, Texas; Dr. David T. Smith, Durham, North Carolina; Dr. S. Ralph Terhune, Birmingham, Alabama; and Dr. Willard L. Waldron, Jackson, Mississippi.

Members of the Society who participated in the Scientific Program.

Radio and television stations for time given for programs incident to the meeting.

D. H. Holmes Company for cooperation in television broadcast on Sunday previous to the meeting.

The Times-Picayune, New Orleans States and New Orleans Item and newspapers throughout the state for news releases.

Scientific exhibitors.

Technical exhibitors.

Advertisers in the program.

Tulane University School of Medicine for use of auditorium by one of the scientific sections.

The Roosevelt Hotel, headquarters for the meeting, for excellent cooperation in handling hotel accommodations for members and guests and furnishing all requirements for scientific, business and social phases of the meeting.

Dr. Roy B. Harrison, Secretary, Louisiana State Board of Medical Examiners, for his comprehensive report submitted to the House of Delegates.

Dr. William E. Barker, Jr., President of the Society; Dr. Philip H. Jones, President-elect; and Dr. Edwin L. Zander, Past President, who rendered assistance in preparing details for the meeting.

Dr. C. Grenes Cole, Secretary-Treasurer.

Miss Annie Mae Shoemaker, Assistant Secretary-Treasurer, and the entire secretarial staff for assistance prior to and during the meeting.

Mrs. Thomas E. Strain, President of the Auxiliary; Mrs. C. Grenes Cole and Mrs. Roy B. Harrison, Chairmen of Arrangements for the Auxiliary Meeting.

Miss Betty Finnan of New Orleans for her beautiful decorations of rooms.

Expressions of gratitude are also extended to Governor Robert F. Kennon for his cooperation in medical matters of interest to the members of the State Society during the past year.

RECOMMENDATION

1. It is recommended that a copy of these resolutions be sent to each person and organization mentioned and also published in The Journal of the Louisiana State Medical Society,

Respectfully submitted,

/s/ J. E. Clayton, M. D.
/s/ R. E. Gillaspie, M. D.
/s/ M. C. Wiginton, M. D.
Chairman

REPORT OF COMMITTEE ON MEDICAL DEFENSE

At the time of the last report of this Committee there were five cases of malpractice suits referred to the attorney of the State Society which were still pending. Since the 1952 Annual Meeting the doctor involved in one of these cases has agreed, with the consent of the Committee on Medical Defense, to settle the case for $5,000.00. Judgment has been brought against the doctor for this amount; however, the attorney has filed exceptions in the case and payment has not yet been made. The other four cases mentioned above are still pending and there was no specific action taken in regard to these cases during the past year.

Since June, 1952 eight new cases have been brought to the attention of the Committee and referred to the attorney for the Society. Six suits were filed; two in Baton Rouge, one in Ringgold, one in New Orleans, one in Shreveport and one in Monroe. The doctors involved in three of these cases have agreed to a compromise and three of the cases are pending, with no specific action or recommendations. One case was settled for $500.00, compromise of $1,500.00 in one is being considered and compromise of $3,000.00 in another is being considered. It is interesting to note that in the case which probably will be settled for $1,500.00 the suit first called for $13,000.00. There have been only threatened suits in the other two instances, one of which occurred in Alexandria and one in Ruston.

Your Committee wishes to state that compromise in the above mentioned instances was agreed to only on recommendation of our attorney for specific legal reasons and not as a matter of routine policy.

On December 31, 1952 there was a balance of $2,199.60 in the savings account of the Medical Defense Fund and it is most probable that further investment in USA Savings Bonds will therefore be made during this year.

C. B. Erickson, M. D., Chairman

NATIONAL FUND FOR MEDICAL EDUCATION

79 Schools Key to Nation's Health . . . .

They train approximately 27,000 undergraduates and 55,000 other medical scientists taking post-graduate work. They graduate 6,000 doctors annually, 1,000 more than a decade ago, but not enough to keep pace with the ever-increasing demand. Strong, self-reliant, well-staffed medical schools are a keystone of national welfare. The nation's health depends upon the physicians, research scientists, public health specialists they train. We simply cannot afford to allow their academic standards to deteriorate. The consequences in terms of national health and welfare would be tragic.

1951 Deficits Totalled $9,500,000 . . . .

Today at least $5,000,000 is needed to meet urgent medical school needs; another $5,000,000 to overcome equally pressing long range problems. Lack of funds is endangering the nation's medical standards. The schools cannot properly maintain their teaching programs. Medical school deficits cause heavy drains upon university budgets, adversely affecting other fields of higher education.

The average cost of training a doctor has doubled in 20 years to $10,000. Tuition fees, raised 165% since 1940, pay only one-fifth of this cost.

Gifts, income from endowments, general university funds and public appropriations no longer provide sufficient revenue to meet current operating costs, let alone future demands.

If Private Support is Not Forthcoming—

Without adequate support, medical training will deteriorate quickly.

The medical schools, during the 20th century, have given this nation the world's finest health standards. To allow them to falter because of financial distress, would be national short-sightedness in the extreme.

79 Schools Key to Nation's Health . . . .

Help is needed from corporations. In order to permit such corporations to make donations for this purpose congress passed legislation permitting corporations to deduct for federal income tax purposes contributions to charitable organizations up to 5% of their net income. 29 states have passed such laws. Louisiana is one of the states which has not. The legislation committee should consider such a bill at the next session of the legislature.

The local schools have profited to this extent. Louisiana State University with 438 students and 98 graduates received $37,463 and Tulane University with 511 students and 132 graduates, $38,906. Louisiana contributions to the fund, Jan. 1 to Dec. 31, 1952 was 12 contributions and total amount of $699.00. Compare this with New York: 985 contributions for a total of $53,023.47 and Nebraska 464 contributions for a total of $49,121.25.

This more than ever makes it necessary for the schools and medical profession to get together and through their own efforts, the cooperation of business and through the parish societies as well as auxiliaries to further this program in Louisiana.

E. L. Zander, M. D.

———o———

NURSING HOMES

For the past few years it has been apparent that there was a great and crying need for some supervision and inspection of the many nursing homes, in both our rural and urban communities and more especially in our larger cities where many of the homes are located. As time goes on there will be a greater need for the services and accommodations offered to these individuals who go to make up these types of patients.

We must realize that the great increase in demand for services in these facilities has been brought about largely by the soaring age limit of life's expectancy, thereby expanding the span of life from thirty-two (32) years in early 1900 to sixty-nine (69) years in 1953.

This fact, is to a great extent, more or less responsible for the large number of individuals who are victims of old age and illness and who are suffering with chronic diseases at the present time, and are in need of such nursing homes.

Act No. 406 passed by the 1952 Legislature placed the responsibility of inspection and licensing of these homes in the hands of the State Department of Health, and Section No. 14 of this act requires that the State Health Officer appoint an Advisory Nursing Home Council composed of representatives of the Louisiana State Medical Society, Louisiana State Hospital Association, Louisiana State Registered Nurses Association, Louisiana State Practical Nurses Association, The State Fire Marshal, Louisiana Municipal League, Louisiana Police Jury Association, Louisiana State Department of Welfare, and the State Department of Institutions, to consult with the Board of Health in the development of rules and regulations, and in matters of policy affecting administration of the act.

These homes are thoroughly inspected and those institutions which satisfactorily meet all the requirements of this act are permitted to operate, thereby assuring these unfortunate patients of good accommodations and treatment, and those homes who do not promise and furnish this service will not be allowed to operate in our state.

We believe this is a splendid accomplishment and a move in the right direction and will result in great benefits to our people.

LOUISIANA STATE MEDICAL SOCIETY NEWS

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Morehouse	Third Thursday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

DR. LEON J. MENVILLE

Dr. Leon J. Menville of New Orleans, Emeritus Professor of Radiology, Tulane Medical School, has recently been honored by The Radiological Society of North America.

In addition to being made an Honorary Member of this society, he will receive a diploma from the society with the following citation:

"Dr. Leon J. Menville of New Orleans, Louisiana, is a past president of The Radiological Society of North America and former editor of Radiology. His service to radiology as a teacher and a leader in medicine has been of such high order that your Board felt in conferring Honorary Membership on Dr. Menville, we were not only honoring him but we were sincerely testifying to the achievements of a great physician."

During the thirty-eight years of its existence, The Radiological Society of North America has conferred this honor on only eight persons, all of whom have attained national distinction. Among those honored were: Wm. D. Coolidge, Ph.D., the inventor of the Coolidge X-ray tube; Wm. Duane, Ph.D., Professor of Physics, Harvard University; James F. Ewing, M.D. Professor of Pathology, Cornell University; George E. Phalen, M.D., Professor of Radiology, University of Pennsylvania Graduate School; Alex Reyn, M.D., Copenhagen, Denmark.

A.M.A. INAUGURAL CEREMONY WILL BE BROADCAST BY ABC

The American Broadcasting Company radio network will carry the inauguration of Dr. Edward J. McCormick of Toledo, Ohio, as President of the American Medical Association on Wednesday night, June 3, it has been announced by A.M.A. headquarters in Chicago.

The inaugural ceremony at the 102nd Annual Session of the A.M.A. in New York City will be heard over more than 300 ABC stations in this country, Alaska and Hawaii. Except for some local variations because of station program schedules, the inauguration will be carried at 10-10:30 P.M. in the Eastern Time Zone and 9-9:30 P.M. in all other time zones.

The actual inaugural ceremony will take place Tuesday night, June 2, in the Hotel Commodore, but it is expected that practically all radio and television time that night will be disrupted by special news and film programs on the coronation of Queen Elizabeth. It therefore will be necessary to transcribe the program for a delayed broadcast on Wednesday night.

TOXEMIA AND PREGNANCY

Early and continuous prenatal care would effectively prevent the occurrence of many cases of toxemias, one of the most serious complications of pregnancy, according to Dr. Howard J. Tatum of the Louisiana State University School of Medicine.

A member of the obstetrics and gynecology faculty, Dr. Tatum added that "plenty of lean meat and limitation of salt are the most important preventive measures as yet known. The physician cannot regulate the diet if the prospective mother does not seek medical attention."

Toxemias are now the most important single cause of death associated with pregnancy in Louisiana and in the South as a whole according to Dr. Tatum.

He said, "In this state during 1951, 30 per cent of the women who died during pregnancy died as a result of toxemia. Toxemia very frequently causes premature births and hence many babies are lost as an indirect result of the disease of the mother. There is good evidence that repeated severe toxemias in the same mother may significantly shorten the mother's life expectancy."

DENSE GALLBLADDER SHADOWS MADE POSSIBLE WITH TELEPAQUE

Telepaque has proven the most satisfactory of the contrast mediums currently used in cholecystography, and has made this procedure a simple, convenient and accurate test of gallbladder function, according to Drs. Wendell G. Scott and Wayne A. Simril of St. Louis, Mo. They report in the *American Journal of Roentgenology* (69:78, Jan. 1953).

Conclusions relating to Telepaque's effectiveness were based on use of the medium in 300 unselected cases since March 1951. The investigators found

that the radiopaque compound, which was introduced nationally by Winthrop-Stearns Inc. in 1952, produced gallbladder shadows of greater density than had been possible with other dyes. They attribute this to the fact that Telepaque contains 15 per cent more iodine than previously available mediums.

WHO CAN PREVENT TRAFFIC ACCIDENTS?

Only *you* can prevent traffic accidents.

If this strikes you as an unreasonable charge, you need to read a booklet we just received from The Travelers Insurance Companies. It is their annual publication of traffic accident data in which statisticians have dissected the anatomy of street and highway safety.

You would learn that 37,600 persons were killed and 2,090,000 injured by motor vehicle accidents last year. Turing the booklet's pages, you would find out why 1952 made tragic history as the most disastrous year for traffic casualties we have ever experienced.

It is clear from this report that most of last year's accidents could have been avoided. Most of them were caused by drivers and pedestrians in control of the circumstances which got them into trouble. The conclusion is inescapable: the accident problem can be solved only by those who do the driving and walking.

Only *you* can prevent traffic accidents.

SUPPLEMENT TO A.M.A. FILM CATALOG NOW AVAILABLE

The A.M.A. Committee on Medical Motion Pictures has announced the publication of a supplement to the list of films available through the motion picture library. This supplement includes 12 motion pictures added to the library since publication of he December 1, 1952 catalog. Copies may be obtained by writing to the committee on Medical Motion Pictures, American Medical Association, 535 North Dearborn, Chicago 10, Illinois.

SUPPLEMENT TO THE LIST OF FILMS CLEARED FOR TELEVISION USE NOW AVAILABLE

The Committee on Medical Motion Pictures of the American Medical Association has announced the publication of a supplement to the list of health education motion pictures cleared for use on television. This supplement lists 38 motion pictures which have been cleared for television use since publication of the original list in 1951.

Copies may be obtained by writing to the Committee on Medical Motion Pictures, American Medical Association, 535 North Dearborn Street, Chicago 10.

WOMAN'S AUXILIARY TO THE LOUISIANA STATE MEDICAL SOCIETY

THIRTIETH ANNUAL MEETING
NEW YORK, N. Y., JUNE 1-5, 1953

A cordial invitation is extended to all members of the Woman's Auxiliary to the American Medical Association, their guests, and the guests of physicias attending the convention of the American Medical Association, to participate in all social functions and attend the general meetings of the Auxiliary.

Headquarters will be at the Hotel Statler. Tickets will be available at the registration desk only. Please register early and obtain your badge and program.

Registration Hours

Sunday	12:00 M to 4:00 P.M
Monday	9:00 A.M. to 4:00 P.M.
Tuesday	9:00 A.M. to 4:00 P.M.
Wednesday	9:00 A.M. to 4:00 P.M.
Thursday	9:00 A.M. to 12:00 M

Mrs. Adolph H. Emerson, Co-Chairman
Mrs. William J. Lavelle, Chairman
Committee on Arrangements

RAPIDES PARISH

Mrs. Samuel Levy of Natchitoches was principal speaker at the recent meeting of the Woman's Auxiliary to the Rapides Parish Medical Society, at the home of Mrs. M. S. Freiman.

Mrs. Levy, president of the Louisiana Health Council, had as her topic "Your Neighbor's Health Is Your Business." The speaker was introduced by Mrs. D. B. Barber, chairman of the program committee.

Mrs. H. H. Hardy, Jr., was named chairman of the nominating committee which will present a slate of officers at the April meeting. Also on the committee are Mesdames Henry C. Gahagan, John Worley, Noel T. Simmonds and Arthur Seale.

White camellias were arranged in a crystal and silver epergne at the center of the table in the dining room. At the base of the epergne were camellias and valentines. Pouring coffee was Mrs. N. M. Brian, Jr.

Other members and guests attending were Mesdames R. G. Masterson, Clarence Pierson, David Trax, R. B. Wallace, Jr., Raymond Seshul, W. E. Wilkinson, R. E. Rowland, J. A. Worley, John Deming, H. H. Hardy, H. G. Alexander, Harry Q. Gahagan, W. H. Hamilton, Daniel M. Kingsley, O. B. Owens, Cleon Worley of Shreveport, Cora Floore, L. J. Alleman, and E. Preston Ferguson of Natchitoches.

IBERIA PARISH

Among the most important projects of the Iberia Parish Medical Auxiliary is that of its Loan Closet located in New Iberia. The Loan Closet carries all kinds of sickroom needs such as wheel chairs, hospital beds, etc. The equipment has ben in constant use. Additions to it have been made possible by a style show given by the Auxiliary, the proceeds of which went for the benefit of this project. Good publicity through the radio and the newspaper has created interest in the support of the Loan Closet, and has also served to inform people who needed to use it of what was available. The auxiliary feels that it has been a very worthwhile activity.

ORLEANS PARISH

"Doctor's Day" was celebrated by a reception held at the Orleans Club, March 31, at 8:00 P.M., with Mrs. Philips Carter as chairman. The highlight of the evening was the presentation of a donation by the auxiliary to the American Medical Educational Foundation. Receiving the donations were Drs. Sam Hobson, president of Orleans Parish Medical Society, William W. Frye, dean of Louisiana State University Medical School, and Maxwell E. Lapham, dean of Tulane School of Medicine.

The Woman's Auxiliary to the Orleans Parish Medical Society entertained wives of physicians attending the New Orleans Graduate Medical Assembly which met March 2, 3, 4, and 5. Registration for the visiting wives was in charge of the Auxiliary. They were also in charge of an information booth at the Auditorium throughout the Assembly.

On March 3, a tour of the French Quarter was made.

On March 4, a "Carnival Tea" was held at the Orleans Club. For this occasion, the Club was reminiscent of Old New Orleans. Dressed in fiesta costumes and receiving were Mrs. Edwin R. Guidry, Mrs. Charles B. Odom, Mrs. Joseph S. D'Antoni, Mrs. Eugene Countiss, Mrs. Boni deLaureal, Mrs. Daniel J. Murphy, Mrs. Earl Conway Smith, and Mrs. George M. Haik.

The program for the afternoon was the presentation of the following Carnival Queens:

Miss Catherine Walter, Queen of Virigilians, daughter of Mr. and Mrs. Victor Walter.

Miss Elizabeth Philip Blain, Queen of Dorians, daughter of Mr. and Mrs. Hugh Mercer Blain, Jr.

Miss Margaret Delphine Brignac, Queen of Bards of Bohemia, daughter of Mr. and Mrs. Paul Marion Brignac.

Mrs. Thomas C. Creagan, a former queen of Prophets of Persia, daughter of Dr. and Mrs. Aynaud Hebert.

Miss Shirley Mae Claverie, daughter of Mr. and Mrs. Albert P. Claverie and granddaughter of Dr. and Mrs. P. J. Wahl, Queen of the Children's Carnival Ball.

Ladies-in-waiting to their majesties:

Miss Ilene Seale of Sulphur, Louisiana, daughter of Dr. and Mrs. W. K. Seale.

Miss Joel Virginia Russell, daughter of Dr. and Mrs. Howard Hugo Russell.

Dr. Emile A. Bertucci was narrator for the program.

The Woman's Auxiliary to the Orleans Parish Medical Society held its regular monthly meeting and tea April 8, at the Orleans Club. The program for the afternoon included the presentation of prizes to the local high school winners of the essay contest sponsored by the Association of American Physicians and Surgeons. Dr. Edwin L. Zander, National Chairman for the essay contest, made the awards.

During the social part of the meeting, a spring hat contest was held. The theme of the hats was a medical one. Winners were: Most Beautiful Hat, Mrs. Anees Magabgab; Most Original Hat, Mrs. Nicola Tessitore; Silliest Hat, Mrs. Joseph Gregoratti; Cleverest Hat, Mrs. Holly B. Grimm.

SHREVEPORT DOCTOR'S DAY

A lovely party celebrating Doctor's Day was given at the Shreveport County Club by the Woman's Auxiliary to the Shreveport Medical Society with Mrs. P. R. Gilmer as chairman. The ballroom was transformed into a showboat setting. The guests enjoyed a delicious dinner at small tables placed about the ballroom. After dinner, a very entertaining program was given. A number of doctors participated in the original skit written by Mrs. N. J. Bender and Mrs. P. R. Gilmer.

Also in recognition of Doctor's Day, a personal note of appreciation was sent to each doctor by the president of the auxiliary, Mrs. P. D. Abramson. Both daily papers carried good editorials of tribute to the doctors on their day.

Mrs. Leon F. Gray,
Chairman of Press and Publicity.

BOOK REVIEWS

Postgraduate Lectures on Orthopedic Diagnosis and Indications; by Arthur Steindler, M. D. Springfield, Illinois, Charles C. Thomas, 1952, vol. IV, Pp. 318. Price $9.75.

This fourth volume in *Post-Graduate Lectures on Orthopedic Diagnosis and Indications* includes discussion on arthritis and diseases of muscles, bursae and tendons, togther with deficiency and degenerative diseases of the locomotor system. The first section, devoted to the arthritides, has an excellent discussion of the treatment of atrophic rheumatoid arthritis and considers the general therapeutic agents and the specific orthopedic measures most thoroughly. The lecture on inflam-

matory diseases of the muscles contains many excellent illustrations of poorly defined muscular lesions, and the discussion is most thorough concerning the pathology and variety of therapeutic measures. The inclusion of primary neuromuscular diseases in this first section of lectures rather than under deficiency degenerative diseases of the locomotor system seems rather odd. However, the second section was most complete in the discussion of vitamin deficiency, senile diseases of the bone and degenerative bone diseases, known, unknown and poorly understood skeletal lesions. The fourth lecture in the second section appears to be exceptionally well organized and considers the avascular necrosis of the various epiphyses. The second section of the last volume of this series discusses the neuro-arthropathies.

The fourth volume in the series of four continues the same type of methodical cataloging by affectations of the skeletal motor system. In general, the same excellent quality of illustrations characterizes the second and third volume as present. In reviewing the entire work of four volumes the value of this work becomes more apparent. No volume is complete within itself but the decision to divide this large series of lectures into four volumes appears to be a wise one. Taken as a whole, this lecture series represents a monumental encyclopedia of orthopedic pathology and the concept of therapeutic principles of one of the pioneers in postgraduate education in orthopedic surgery.

JACK WICKSTROM, M. D.

Diabetic Glomeruloselerosis; The Specific Renal Disease of Diabetes Mellitus; by Harold Rifkin, M. D.; Louis Leitner, M. D. Ph.D.; and James Berkman, M. D. Springfield, Illinois, Charles C. Thomas, 1952. Pp. 102, illus. Price $3.50.

This interesting syndrome of albuminuria, nephrotic edema, hypertension, and renal decompensation has been adequately studied in a series of patients seen at the Montefiore Hospital in New York City. The authors present the result of their studies on a group of patients. They emphasize the diagnostic value of finding doubly refractile casts in the urinary sediment and the demonstration by the pathologist of intraglomerular hyaline balls. Clinical features and prognostic complications are well covered.

This monograph, one of the American Lectures in Metabolism, can be well recommended to anyone wishing to familiarize himself with the basic manifestations of this syndrome.

SYDNEY JACOBS, M. D.

Diabetes and Pregnancy; by Ralph A. Reis, M. D.; Edwin J. DeCosta, M. D.; and M. David Allweiss, M. D. Springfield, Illinois, Charles C. Thomas, 1952. Pp. 88. Price $2.50.

In this small volume the problems facing the diabetic woman who becomes pregnant are outlined and analyzed. The authors are quite optimistic that an excellent fetal salvage can be obtained by simple reasonable management of both the diabetes and the pregnancy. They do not believe that hormone therapy is particularly effective in preventing toxemia of pregnancy or in increasing the likelihood that the diabetic woman will be delivered of a viable child. They believe that pregnancy should be terminated when the fetus achieves the size of approximately 35 gms., which is usually accomplished by the thirty-seventh week. They advise cesarean section only when the obstetrician decides that delivery cannot be effected quickly and safely vaginally. They further advise that successful management of the new born baby of the diabetic mother demands that it be cared for as if it were a premature baby regardless of actual age, size, and weight.

This small volume presents in precise fashion a considerable amount of information. It is recommended to either the obstetrician or the internist who is confronted with such a problem.

SYDNEY JACOBS, M. D.

PUBLICATIONS RECEIVED

Doubleday & Company, Inc., N. Y.: Children of Divorce, by J. Louise Despert, M. D.

Froben Press, Inc., N. Y.: Heart and Circulation: Diagnosis and Treatment, by Meyer Solar, M. D, and assisted by Jacob Malnick, M. D.

Grune & Stratton, N. Y.: Chronic Pulmonary Emphysema, Physiopathology and Treatment, by Maurice S. Segal, M. D., and M. J. Dulfano, M. D.

The C. V. Mosby Company, St. Louis: Physiology of Exercise by Laurence E. Morehouse, Ph.D., and Augustus T. Miller, Jr., Ph.D., M. D. (2nd Edit.)

Philosophical Library, N. Y.: The Conception of Disease, its History, its Versions and its Nature, by Walther Riese, M. D.; The Psychology and Psychotherapy of Otto Rank, by Fay B. Karpf.

W. B. Saunders Company, Phila.: Clinical Diagnosis by Laboratory Methods, by James C. Todd, M. D., Arthur H. Sanford, M. D., and Benjamin B. Wells, M. D. (12th Edit.); An Atlas of Surgical Exposures of the Extremities, by Sam W. Banks, M. D., and Harold Laufman, M. D.; Physical Examination of The Surgical Patient, by J. Englebert Dunphy, M. D., and Thomas W. Botsford, M. D. The Anatomy of the Nervous System, by Stephen Walter Ranson, M. D., revised by Sam Lillard Clark, M. D. (9th Edit.); A Manual of Clinical Allergy, by John M. Sheldon, M. D., Robert G. Lovell, M. D., and Kenneth P. Mathews, M. D.; Treatment of Mental Disorder, by Leo Alexander, M. D.; Gifford's Textbook of Ophthalmology, by Francis Heed Adler, M. D. (5th Edit.)

Charles C. Thomas, Publisher, Springfield, Ill.: The Founders of Neurology, by 84 authors and edited by Webb Haymaker, M. D., and Karl A. Baer; Contact Dermatitis, by George L. Waldbott, M. D.

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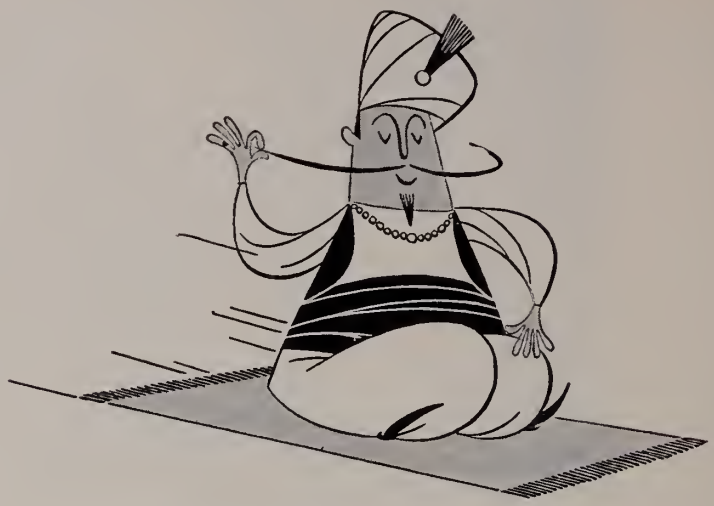

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*Perloff, W. H.: Am. J. Obst. & Gynec. *58*:684 (Oct.) 1949.

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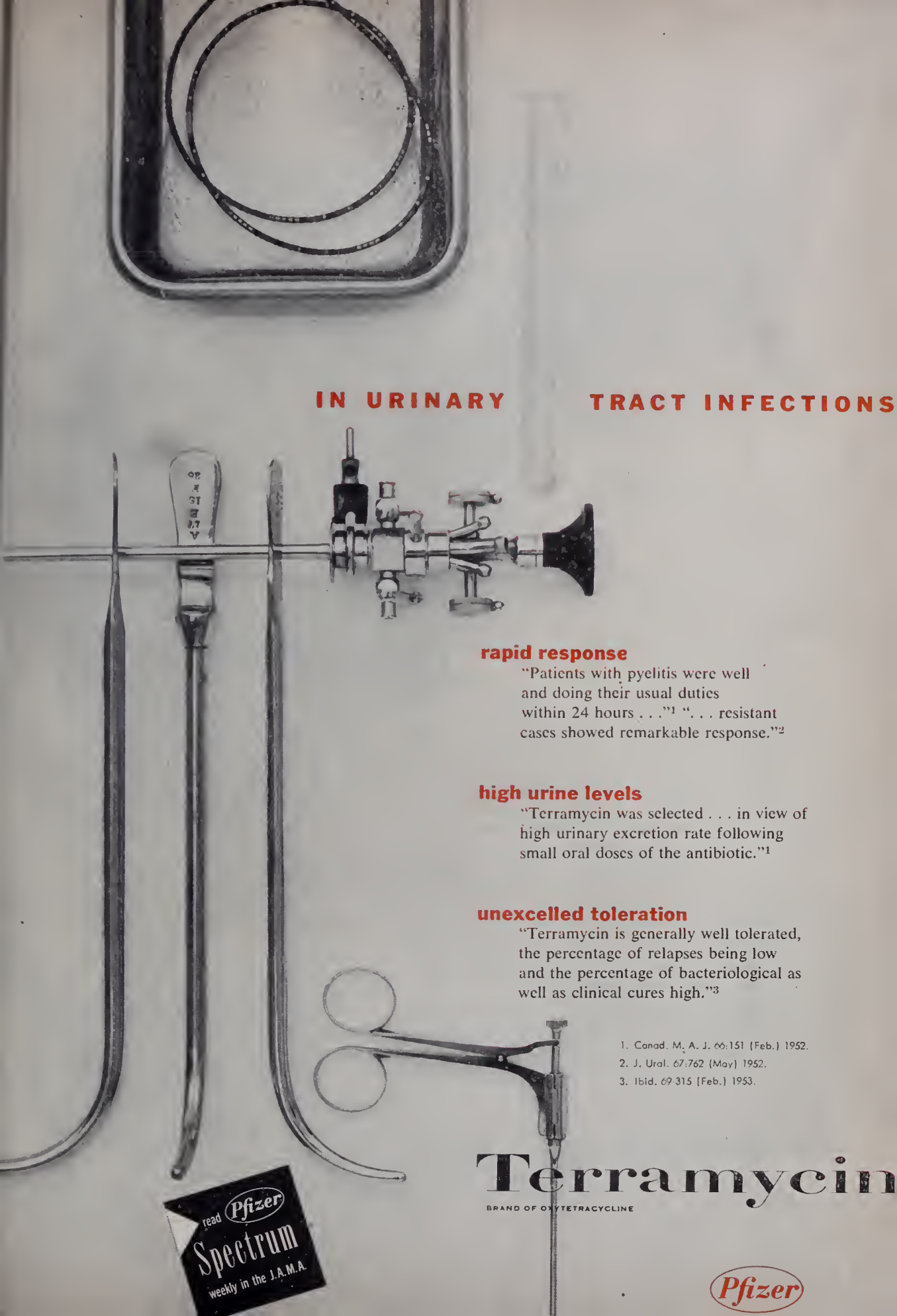
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1. Canad. M. A. J. 66:151 (Feb.) 1952.
2. J. Urol. 67:762 (May) 1952.
3. Ibid. 69:315 (Feb.) 1953.
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1. Reich, W. J. et al. (1952), A Recent Advance in Estrogenic Therapy. II. Amer. J. Obst. & Gynec., 64:174, July.

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*Food for Your Heart, a Manual for Patient and Physician, Department of Nutrition, Harvard School of Public Health, Harvard University, The American Heart Association, Inc., New York, 1952. Copies available through local Heart Association.

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

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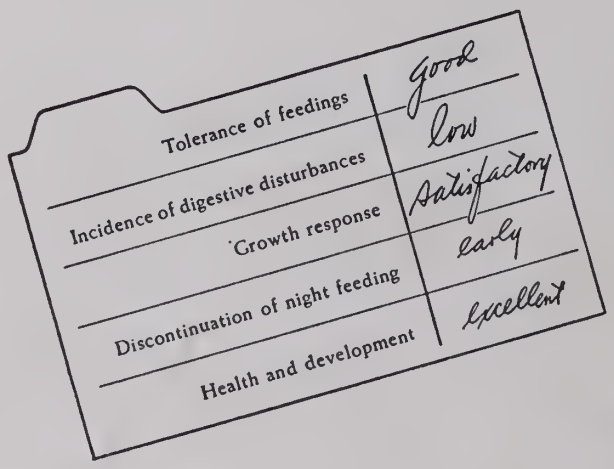

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1. Frost, L. H., and Jackson, R. L.: J. Pediat. 39: 585-592, 1951.

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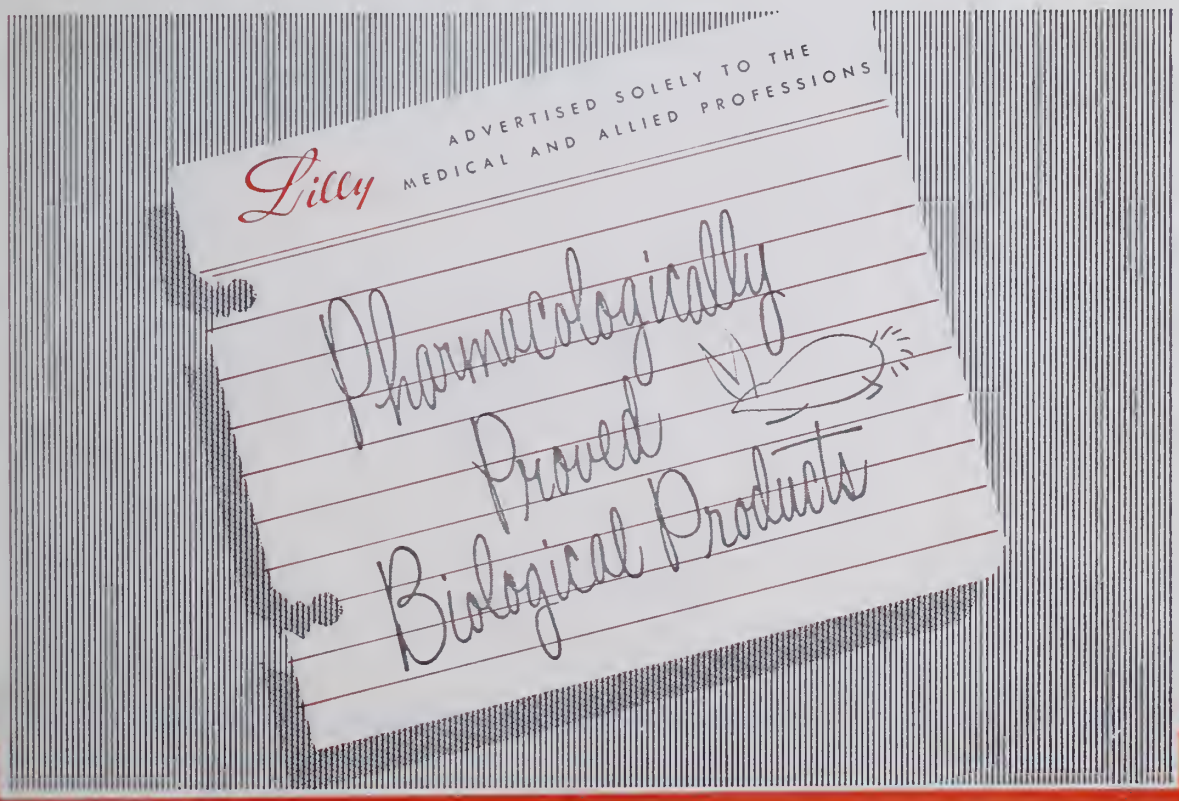

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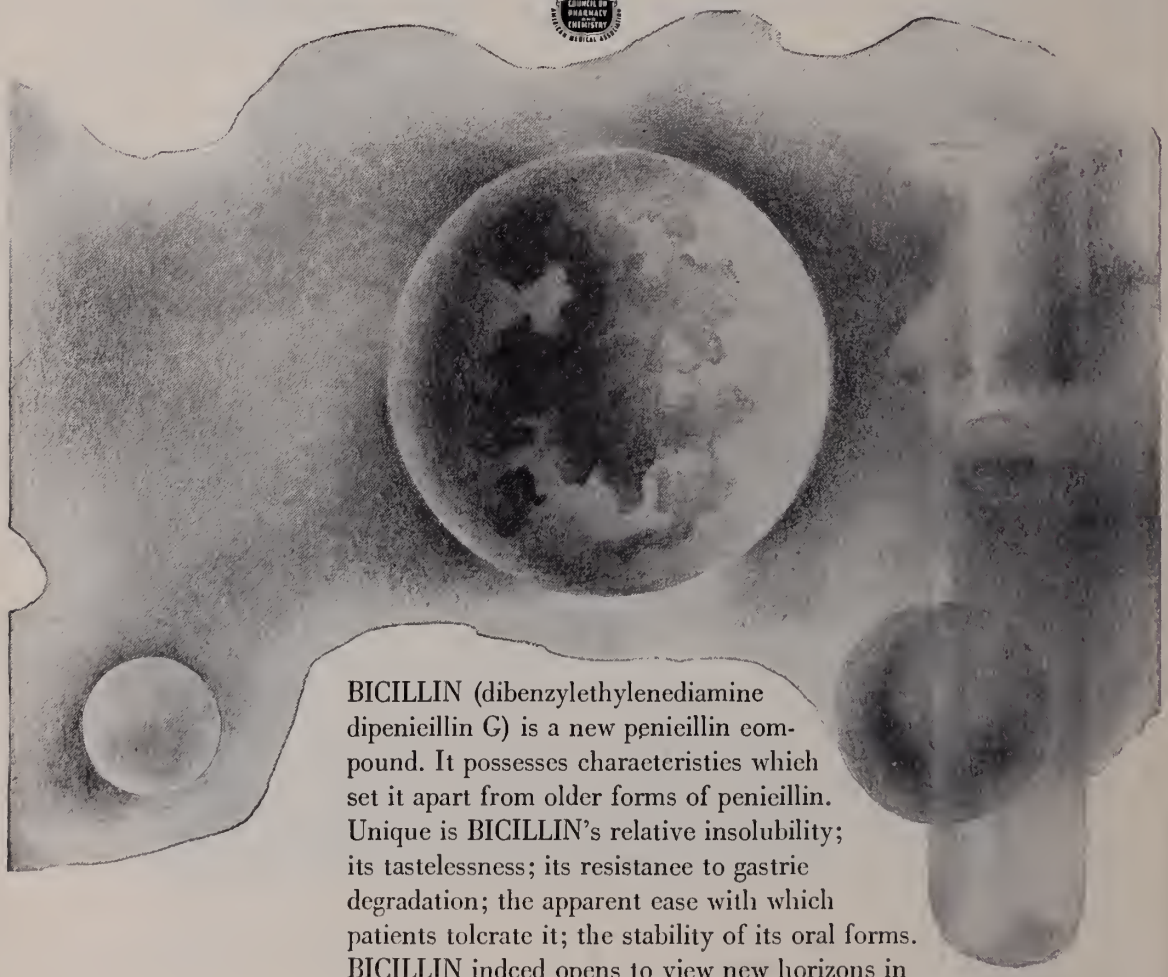

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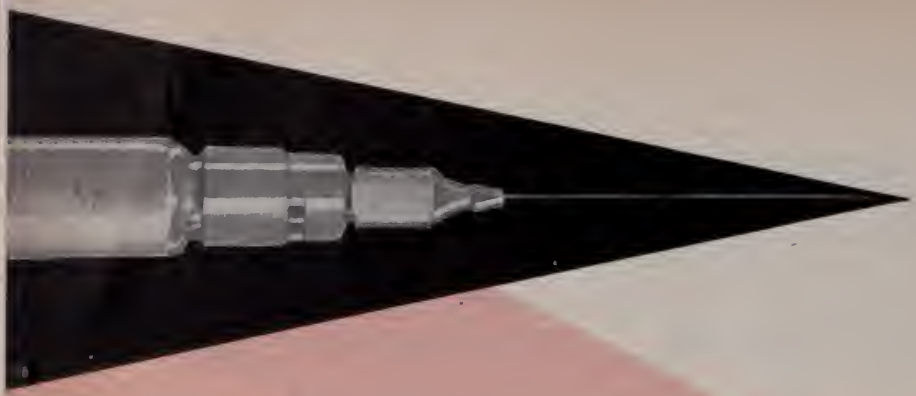

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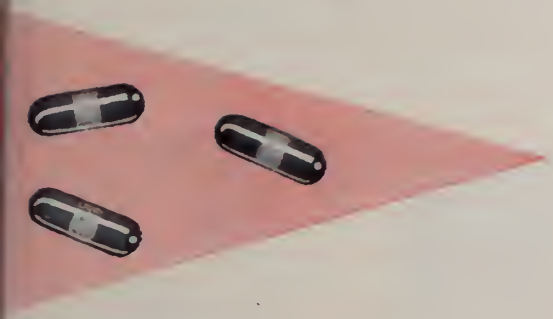

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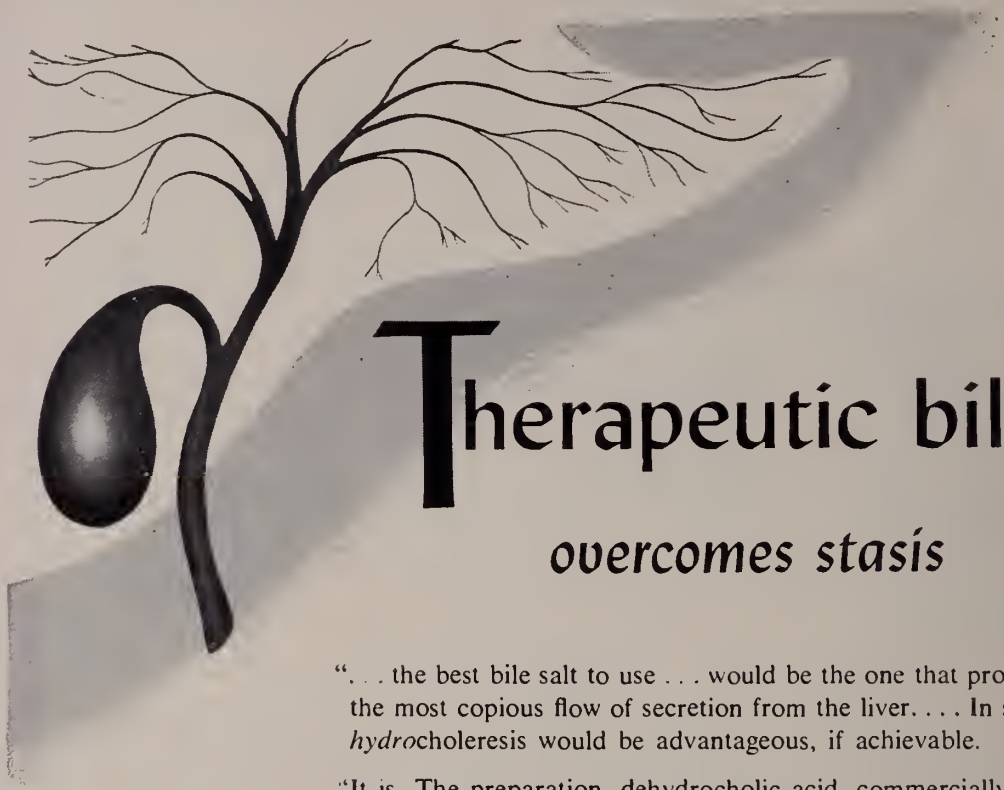

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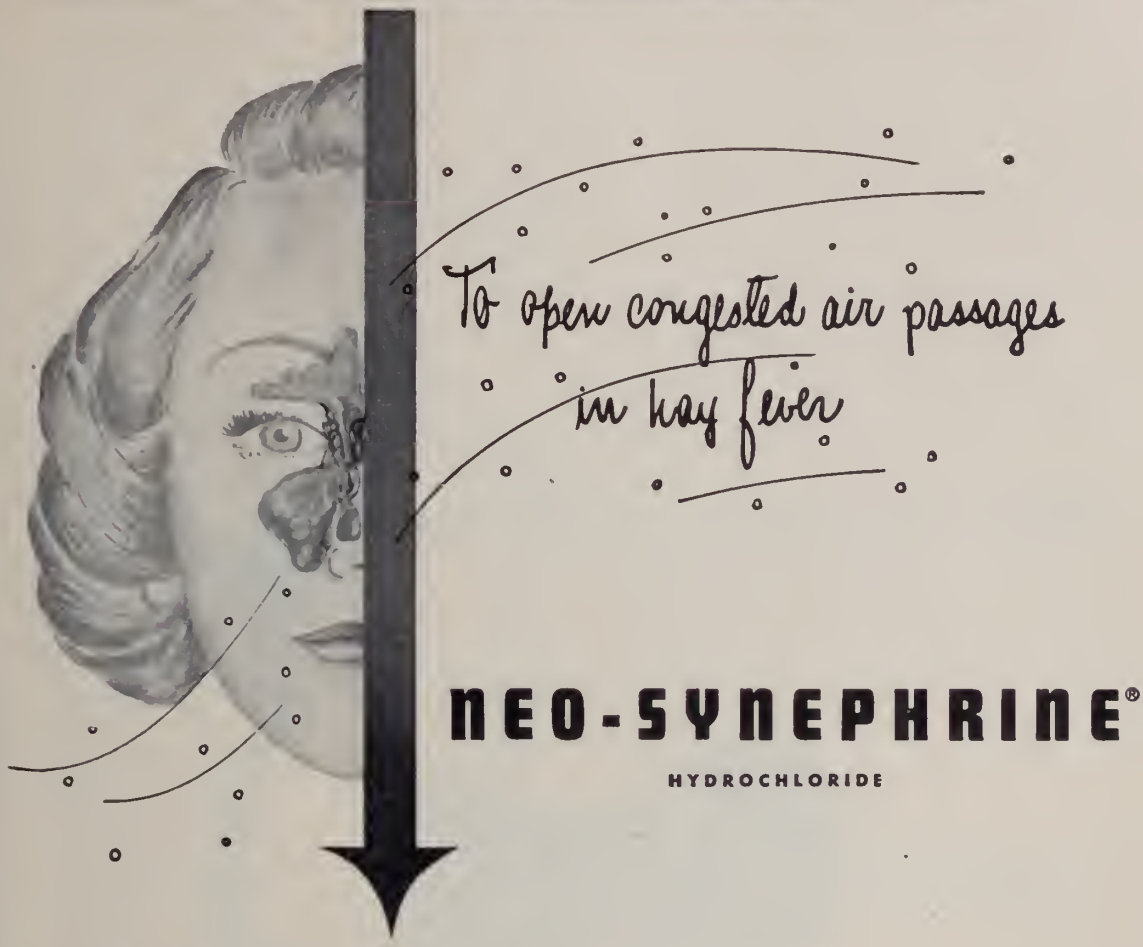

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1. Von Alyea, O. E., and Donnelly, Allen: *Arch. Otolaryng.*, 49:234, Feb., 1949.

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GASTRIC CANCER*

DEWARD O. FERRIS, M. D.†
ROCHESTER, MINNESOTA

The problem of gastric cancer, like many other problems facing the medical profession today, is a challenging one. The majority of all patients who have a malignant lesion of the stomach die of the disease regardless of the form of therapy employed. This is as true today as it was seventy-two years ago, when Billroth[1] performed the first successful partial gastrectomy. Although much progress has been made, just how much has been accomplished and how may the results be improved?

Berkson, Walters, Gray and Priestley[2] made a survey of the patients with gastric cancer who were treated surgically at the Mayo Clinic from 1907 through 1949. During this time, operations for malignant neoplasms of the stomach were performed in 9,620 cases, and we have obtained follow-up data in 99.3 per cent of these cases.

It is of interest to study the hospital mortality rate for resection only, as all other procedures offer no chance of cure. This can be done most clearly by studying the group of patients who were treated by gastric resection (Fig. 1). In plotting the hospital mortality rate for the successive years, they began with the cases grouped for the period from 1907 through 1937, because no downward trend of mortality was discernible in these years. In the period studied

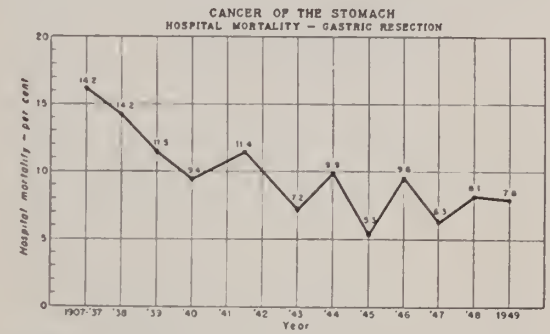

Fig. 1—Trend of hospital mortality rates for gastric resection.

since 1937, there has been a definite decline of mortality, with an appearance of stabilization at a level of about 8 per cent, a figure half of that characterizing the period prior to that year. One should be very cautious in attributing the improvement to one or two things, such as earlier diagnosis, improved preoperative and postoperative care, antibiotics, improved surgical technique and modern anesthesia. It is actually due to teamwork and the application of more recently learned facts in all fields of medicine.

Figure 2 shows the survival curves for

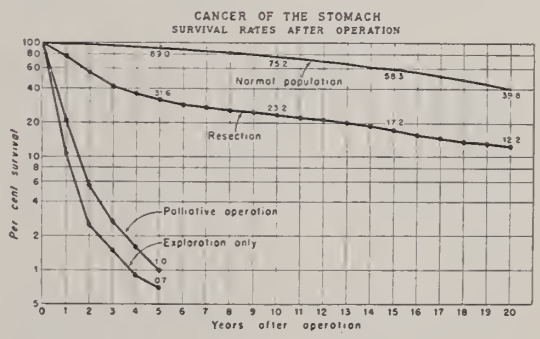

Fig. 2—Survival rates in successive years after operation.

the 3 main operative groups — resection, palliative operation and exploration—and

*Presented at the Seventy-third Annual Meeting of the Louisiana State Medical Society, New Orleans, Louisiana, May 8, 1953.

†Division of Surgery, Mayo Clinic, Rochester, Minnesota.

for comparison with these a survival curve of the normal population.

The five-year survival after resection is seen to be 31.6 per cent and almost all the patients in the group who underwent palliative operation and exploration only have died. It is interesting to note that after seven or eight years the curve representing patients who have undergone resection parallels the curve of the normal population. In 2,607 (58.9 per cent) of the 4,429 cases in which resection was performed, metastasis had occurred before the operation was performed; in the remaining 1,822 cases (41.1 per cent), the operation did not disclose any evidence of metastasis. Figure 3 shows the survival curves for these 2 groups. The five-year survival rate for the group without metastasis was 48.5 per cent; whereas for the group with metastasis it was 18.6 per cent. When metastasis is present, it is reasonable to believe that the cancers either have grown very rapidly or that their recognition has been delayed. At any rate, the cases in which metastasis is present offer a much poorer prognosis and are evidence pointing to the importance of early diagnosis and treatment.

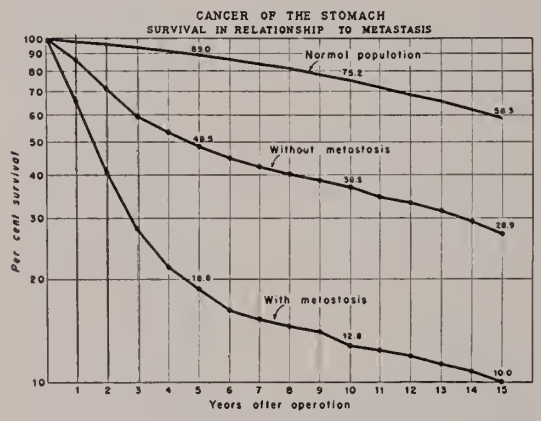

Fig. 3— Survival rates of patients who underwent gastric resection, for those with and without metastasis.

What I have been reviewing to this point is the total experience of the clinic from 1907 through 1949. That is, the results depicted are the average results for the entire period. In an effort to determine whether there was any change in the outlook for the patient with gastric cancer in this period, Berkson, Walters, Gray and Priestley took two parts of the experience to examine: (1) that of the ten-year period, 1907-1916, and (2) that of the ten-year period, 1940-1949. For the cases in which resection was performed, the survival curves of these two series are compared in figure 4. At the five-year point, the survival rate in the recent period was 35 per cent; whereas it was 29 per cent in the earlier period. This is a difference of 6 survivors per hundred, and a relative improvement of 20 per cent.

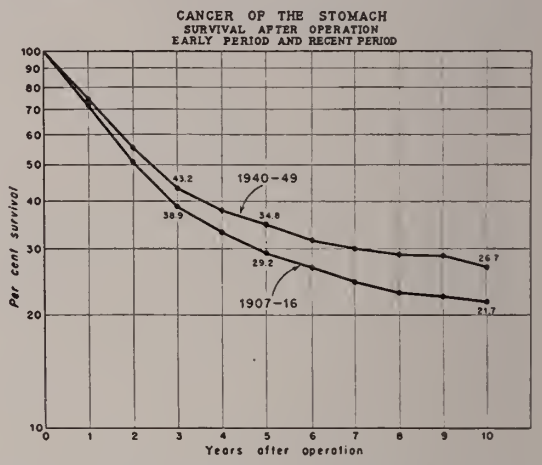

Fig. 4—Survival rates of patients who underwent gastric resection, in 1940-1949 as compared with 1907-1916.

The survival rate following resection is not the only improvement in outlook. One must also examine the operability rate, resectability rate and hospital mortality rate. In all of these, there has been improvement (see Table 1).

TABLE 1
STATISTICAL MEASURES OF IMPROVEMENT OF OUTLOOK FOR PATIENTS HAVING CANCER OF THE STOMACH

	1907 to 1916	1940 to 1949	IMPROVEMENT %*
Operability rate	60	80	33
Resectability rate	37	55	48
Hospital mortality rate	16	8	100
Three-year survival rate	39	43	10
Five-year survival rate	29	35	20

*Based on lower of the two figures. All figures given to nearest whole per cent; in the calculations that follow, derived from these, they are carried out to an additional decimal.

What these improvements, taken together, mean with respect to the outlook of pa-

tients with gastric cancer as they come to the physician is shown in Figure 5, which traces 100 patients from the time of diagno-

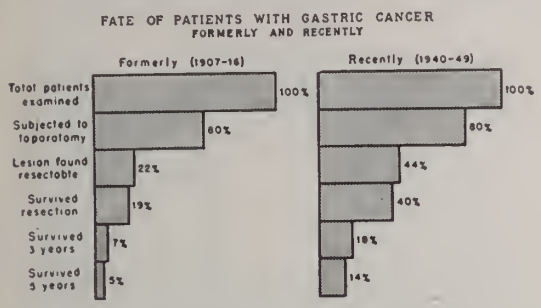

Fig. 5—Improvement of outlook of patients having gastric cancer in 1940-1949 as compared with 1907-1916.

sis of cancer of the stomach to five years later. In the early period, of 100 patients with a diagnosis of a gastric maligant lesion, only 5 could be expected to be living five years later; in the later period, the expected number living five years after diagnosis has increased to 14. This is an improvement of only 9 persons per 100, but even so, the change represents an improvement of 180 per cent.

As seen in Figure 6, between the time the diagnosis of cancer is first made and five

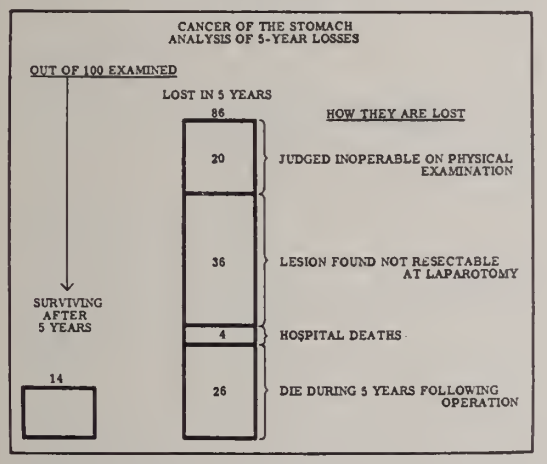

Fig. 6—Analysis of five-year losses from cancer of the stomach.

years later, 86 of 100 patients are lost. Let us analyze the losses as shown in figure 6. Twenty of the 86 are lost because the lesion is found already inoperable when the patients are first examined; 36 more are lost when, at laparotomy, it is found that the lesion is not resectable. Thus, the loss of 56 of the 86 (65 per cent) is due to the patient's arriving too late for surgical treatment. The remaining 30 patients can be considered the surgical loss; 4 of these represent hospital deaths and 26 represent deaths during the subsequent five years. Perhaps improvement in surgical management and technique can decrease the loss represented by these 30. Supposing the 56 patients who had lesions not amenable to surgical treatment were to present themselves in a resectable state, there would be 18 more survivors added to the present 14, which would more than double the number salvaged from the original 100.

I now have shown how well the problem is being solved. I next shall consider how the result may be improved.

There is only one treatment for cancer of the stomach: early excision. There was a time when the high mortality of operations for gastric cancer discouraged patients and physicians. Today, extensive operation for cancer may be undertaken by experienced surgeons with a reasonably low mortality. Moreover, surgeons are recognizing the necessity of doing better operations. In excision of the lesion we have found that from 3 to 5 cm. beyond the area of extension of the lesion, as indicated by immediate microscopic examination, is a sufficient distance to carry the resection. Larger amounts of duodenum are being removed since Dockerty and other investigators demonstrated that although the pylorus acts as a barrier, in most cases, to extension of the carcinoma, it does not do so in all. Consequently, in cases in which a malignant lesion extends down to the pylorus, it is now our custom to excise as much duodenum as possible and yet leave enough for a satisfactory closure of the duodenal stump.

Statistical data[3] from the files of the Mayo Clinic have shown that, if an adequate amount of stomach uninvolved by a carcinomatous process is removed beyond the lesion, recurrences are usually not in the remaining part of the stomach but in the liver or pancreas or retroperitoneal, lymphatic or periaortic regions. Hence, total gastrectomy would be indicated only in

those cases in which the resection could not be carried well beyond the outside extension of the malignant growth. In spite of improvements, the risk of total gastrectomy in most hands will average twice that of subtotal gastrectomy. Thus, because of lack of proof of its benefits over those of subtotal gastrectomy in cases in which the lesions are resectable, we continue to believe that subtotal gastrectomy will produce as good, if not better, results in properly selected cases, at a much lower risk.

No operation for the cure of gastric cancer, however, carefully planned and skillfully performed, can be successful unless the lymphatics draining the area involved are dealt with in the most thorough manner. Therefore, a knowledge of the lymphatic system of the stomach is of vital importance. Figure 7 shows the lymphatic

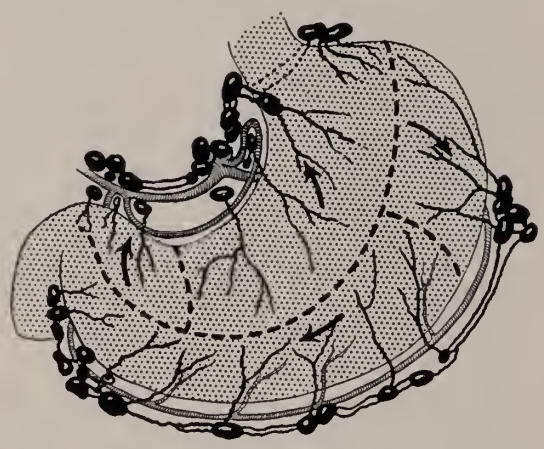

Fig. 7—Lymphatic drainage area of the stomach.

drainage area of the stomach. It is obvious from this illustration that complete excision of the gastrocolic omentum, the gastrohepatic omentum, and the spleen is necessary to remove the potential lymphatic drainage areas of the stomach. Figure 8 shows the dissection in the conventional resection for gastric cancer. The widespread lymphatic drainage areas of the stomach are apparent. The removal of the gastrohepatic omentum up to the inferior margin of the liver, removal of the lesser curvature of the stomach, removal of lymph nodes along the common bile duct and hepatic artery, splenic artery, celiac axis and superior border of the pancreas are mandatory. Removal of

Fig. 8—Dissection in the conventional resection for gastric cancer.

the gastrocolic omentum, the nodes in the pyloric area and a generous portion of the duodenum must be done regularly. Removal of the spleen allows removal of the lymph nodes in the gastrosplenic omentum.

Moreover, in cases of fixed lesions, most surgeons are now recognizing the importance of removing the portion of the organs to which fixation has occurred, whether that organ be liver, spleen, pancreas, transverse mesocolon or colon. Our experience at the clinic has shown that this extension of the operative procedure beyond the conventional limits of gastric resection adds little to the operative risk.

If we surgeons could reduce the mortality rate to zero, we would not increase the salvage rate to any great extent. The kernel of the problem of increasing the five-year survival rate in cases of gastric cancer, therefore, lies in getting more patients to the surgeon while the growth is resectable and before metastasis occurs. The real hope of improvement lies in the further development of diagnostic skills and in general education. The patient must be disturbed enough by the initial symptoms to cause him to consult his family physician for advice. If the physician, when once consulted, does not suspect that all symptoms referable to the stomach may be due to cancer, especially if the patient is more than 45 years of age, much time may be lost before

an accurate diagnosis is made. Let us suppose that the patient is fortunate enough to see a physician who will immediately determine the status of his stomach and has available a roentgenologist who is expert in detecting the presence of small gastric lesions. Even then, much time may be lost because of a casual attitude toward known precursors of cancer of the stomach.

Adenomatous gastric polyps seen unquestionably to be a precursor of gastric cancer. In a recent study of 185 cases of pathologically verified adenomatous gastric polyps, Cromer, Comfort and Eutt[4] found that the polyps were malignant in 35 (19 per cent) of the 185 cases. Gastric polyps require removal.

Regardless of opinions about the change of a benign ulcer to a malignant one, it is clearly established that about 10 per cent of gastric ulcers are malignant. A study of 620 ulcerating lesions of the stomach by Alvarez and MacCarty[5] revealed some interesting facts regarding the relationship of the size of the ulcer to the incidence of malignancy in the ulcers. Figure 9 emphasizes the relationship. On the basis of size alone, a gastric ulcer the size of a dime (1.8 cm.) has a 6 per cent chance of being cancer. Of ulcers the size of a quarter (2.4 cm.), 25 per cent will be malignant. Of those the size of a half dollar (3 cm.), 60 per cent will be malignant. An ulcer the size of a silver dollar (3.7 cm.) has an 80 per cent possibility of being malignant. All ulcers larger than a silver dollar are usually malignant.

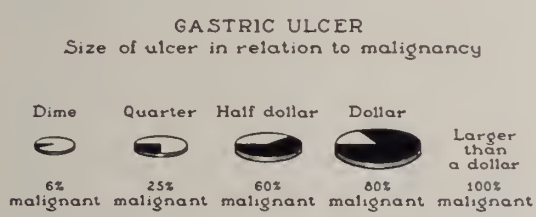

Fig. 9—Relationship of size of gastric ulcers to the incidence of malignancy of the ulcers.

The possibility of malignancy is a real one in cases of ulcer of the stomach. No test is available that will distinguish a benign and malignant ulcer in every instance. With our present knowledge, an aggressive medical trial may be allowed for a small ulcer of doubtful malignancy for a period of three weeks. If, at the end of this time, the ulcer has not healed, one must resort to biopsy. This requires a surgical exploration with excision of the ulcer for immediate microscopic examination. The mortality rate for this procedure is approximately 1 per cent. The mortality rate for medical management if the ulcer if malignant, is 100 per cent.

Enthusiastic advocates of screening methods as a means of getting the cancer patient into the hands of the physician for earlier diagnosis consider roentgenologic examination to be the method of choice. However, we cannot examine the stomach of every individual roentgenologically. We could, however, use this method in the examination of certain segments of the population; particularly, we might choose those with anacidity, pernicious anemia and atrophic gastritis. It is estimated that the incidence of gastric cancer in persons who are more than 40 years of age and have anacidity is eight tc ten times greater than in the general population, and that about 50 per cent of gastric cancers should develop in this group. It is proposed that members of this group undergo frequent roentgenologic examination for the early detection of gastric cancer.[6]

Smaller groups for screening are those with pernicious anemia and atrophic gastritis.[7-11] Evidence has been presented to show that the incidence of gastric cancer and gastric polyps is greater among patients with pernicious anemia than it is in the average group of cases in which necropsy is performed. That the patient with atrophic gastritis, but without pernicious anemia, is more likely to have gastric cancer is not well supported, but the presence of anacidity in many patients with gastric carcinoma before the malignancy develops,[12] and the frequent occurrence of atrophic gastritis in association with gastric cancer,[13-15] is evidence to support such a belief. The need for careful periodic examination in this group of patients seems clear.

Additional methods of diagnosis are being sought. Accurate gastroscopy is rela-

tively new, and is a definite aid, but there are few men competent in its use. Biopsy with the aid of the gastroscope has not been of much help thus far.[16] Cytologic study of gastric washings has not been satisfactory to date.[17-19] However, examination of smears of cardiac lesions, obtained through the esophagoscope, has yielded valuable information.[20] A good technique for detecting exfoliated malignant cells in gastric carcinoma may be the "screening test" we are seeking. This aspect deserves investigating to its fullest possibilities.

Cancer detection clinics are serving a very useful purpose, chiefly in education of the public and the profession. Actually, a high degree of suspicion of the presence of gastric cancer on the part of every physician would accomplish far more.

COMMENT

The over-all picture of gastric cancer is grim. Nevertheless, one must not take a negative attitude toward the problem. Improvement has been made in operability and resectability rates, hospital mortality rates, and survival rates. The scope of operative treatment is increasing, and the concept of the "radical" attack on gastric cancer is being developed. We have arrived at a point in our progress where we should begin to save a much greater number of victims of gastric cancer. Greater improvement must be made. In pointing out the internist's responsibility, Comfort[21] has taken a positive attitude toward the problem, and it certainly applies to all of us. We must cooperate in educating the public and the medical profession, particularly as to the need for early diagnosis and the hopefulness of surgical treatment. We must co-operate in getting the patient with a gastric lesion, be it cancer, benign tumor, ulcer or polyp, into the hands of the skilled surgeon early in the course of the disease. We must be continuously alert to the possibility of the development of gastric cancer in the patient entrusted to our care, and we must be willing to use modern methods of diagnosis for its detection. Moreover, we must support research into the basic nature of cancer and clinical research into the behavior of cancer and new methods of diagnosis.

REFERENCES

1. Billroth, Theodore: Offenes Schreiben an Herrn Dr. L. Wittelshöfer, Wien. med. Wchnschr. 31:161 (Feb. 5) 1881.

2. Berkson, Joseph, Walters, Waltman, Gray, H. K. and Priestley, J. T.: Mortality and survival in cancer of the stomach: A statistical summary of the experience of the Mayo Clinic, Proc. Staff Meet., Mayo Clin. 27:137 (Apr. 9) 1952.

3. Walters, Waltman, Gray, H. K. and Priestley, J. T.: Carcinoma and Other Malignant Lesions of the Stomach, Philadelphia, W. B. Saunders Company, 1942. 576 pp.

4. Cromer, H. E., Jr., Comfort, M. W. and Butt, H. R.: Gastric acidity in cases of adenomatous gastric polyp, J. Nat. Cancer Inst. 10:497 (Oct.) 1949.

5. Alvarez, W. C. and MacCarty, W. C.: Sizes of resected gastric ulcers and gastric carcinomas, J. A. M. A. 91:226 (July 28) 1928.

6. Conference on Gastric Cancer: Discussion. J. Nat. Cancer Inst. 7:395 (Apr.) 1947.

7. Doehring, P. C. and Eusterman, G. B.: Association of pernicious anemia and carcinoma of the stomach. Arch. Surg. 45:554 (Oct.) 1942.

8. Olson, S. W.: The Gastric Mucosa in Pernicious Anemia: A Study of 94 Autopsy Cases From the Department of Pathologic Anatomy of the Mayo Clinic. Thesis, Graduate School, University of Minnesota, 1943.

9. Kaplan, H. S. and Rigler, L. G.: Pernicious anemia and carcinoma of the stomach—autopsy studies concerning their interrelationship. Am. J. M. Sc. 209:339 (Mar.) 1945.

10. Rigler, L. G., Kaplan, H. S. and Fink, D. L.: Pernicious anemia and the early diagnosis of tumors of the stomach, J. A. M. A. 128:426 (June 9) 1945.

11. Rigler, L. G. and Kaplan, H. S.: Pernicious anemia and tumors of the stomach, J. Nat. Cancer Inst. 7:327 (Apr.) 1947.

12. Comfort, M. W., Kelsey, M. P. and Berkson, Joseph: Gastric acidity before and after the development of carcinoma of the stomach, J. Nat. Cancer Inst. 7:367 (Apr.) 1947.

13. Guiss, L. W. and Stewart, F. W. Chronic atrophic gastritis and cancer of the stomach, Arch. Surg. 46:823 (June) 1943.

14. Stout, A. P.: Gastric mucosal atrophy and carcinoma of the stomach. New York State J. Med. 45:973 (May 1) 1945.

15. Warren, Shields and Meissner, W. A.: Chronic gastritis and carcinoma of the stomach, Gastroenterology. 3:251 (Oct.) 1944.

16. Andersen, H. A.: Personal communication to the author.

17. Seybolt, J. R., Papanicolaou, G. N. and Cooper, W. A.: Cytology in the diagnosis of gastric cancer, Cancer 4:286 (Mar.) 1951.

18. Swarts, J. M., Ragins, A. B., Bernstein, Arthur and Meyer, Jacob: Diagnosis of gastric cancer by cytologic examination of gastric washings, Gastroenterology 14:265 (Feb.) 1950.

19. Bryant, H. C., Craig, W. R. and Pollard, H. M.: Cytologic study of gastric aspirate for carcinoma cells, J. Nat. Cancer Inst. 10:459 (Oct.) 1949.

20. Andersen, H. A., McDonald, J. R. and Olsen, A. M.: Cytologic diagnosis of carcinoma of the esophagus and cardia of the stomach, Proc. Staff Meet., Mayo Clin. 24:245 (May 11) 1949.

21. Comfort, M. W.. The problem of gastric cancer from the viewpoint of the internist, Proc. Staff Meet., Mayo Clin. 27:151 (Apr. 9) 1952.

INFLUENCE OF NEWER CONCEPTS OF NASAL PHYSIOLOGY ON NASAL OPERATIONS

RALPH H. RIGGS, M. D.
SHREVEPORT

Among the medical profession, as well as among laymen, there is a general feeling of skepticism concerning the value of certain nasal operations. In some instances, this feeling may be justified. However, at the present time rhinologic surgery can be done successfully and safely if it is performed with a view to insuring a good functional result. The past quarter century has been an era of conservatism in rhinology, and in the last fifteen years more has been done to promote functional surgery than at any time in the history of rhinology. Since a properly functioning nose is conducive to good health, whereas one which functions poorly may be a real detriment to health, functional rhinologic surgery attains particular importance. It is the purpose of this paper to bring to your attention the requisites of a good septal operation, as well as the importance of surgical correction of abnormalities of neighboring structures of the septum at the time of a septal operation if a good functional result is to be obtained. However, it might be well first to review the anatomy of the nose, as well as the functions of the septum.

ANATOMY

It will be recalled that the external nose is composed of a bony vault, which is formed by the nasal bones; a cartilaginous vault, which is below the nasal bones and consists of the upper lateral cartilages and the ventral part of the septum; and the lobule. The lobule is actually a separate part of the nose connected to the upper parts only by skin outside and cutaneous and connective tissue inside. The septum consists of three main parts. One is the hard septum, which is composed of cartilage and bone. Another is the membranous septum, which is the soft septum; it is extremely mobile and consists of mucous membrane and skin. Finally, the last part of the septum is the columella, which is composed of skin, subcutaneous tissue, and the medial crura of the lobular cartilages. It is also known as the semimobile septum.

Today, operative procedures on the septum are not limited to the central portion alone but may involve the whole structure, even its periphery. Since structures adjacent to the septum are frequently involved, the anatomic relationships in this area which may be important should also be mentioned. The nasal bones contribute a perpendicular member to the formation of the septum. Behind these bones and supporting them in the midline is the nasal spine of the frontal bone, a structure of great importance. Its anterior portion is a part of the septum and its continuity with the perpendicular plate of the ethmoid and the nasal bone is of particular concern in mobilization of the septum and external nasal pyramid.

The lobule contains two cartilages called lobular cartilages. Each has a lateral crus, a dome, and a medial crus. The lateral crus helps form the alae and the lateral wall of the vestibule. The medial crus helps form the columella. The dome in connection with the one on the opposite side helps form the tip of the nose. The lobule houses the two vestibules, which are the entrances to each "nose proper." Among landmarks or prominences noted in the vestibule are the caudal margin of the outer extremity of the lateral crus, the caudal margin of the upper lateral cartilage, a cul-de-sac located between the lobular and upper lateral cartilage, and the posterior extremity of the medial crus. Anatomically, the lobular cartilage overrides the upper lateral cartilage.

NEWER CONCEPTS

There has been a renewal of interest in nasal surgery as a result of some newer concepts concerning nasal physiology. It is now generally appreciated that the nose has more functions than merely acting as a "conditioner of air." Why is nasal breathing superior to mouth breathing? Why are there two nasal chambers? What are the reasons for nasal insufficiency and how

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can these be properly corrected? Also, what are the functions of the septum? What are the functions of the vestibule? What are the actions of the lobular and upper lateral cartilages? What is the action of the upper lateral cartilages with the septum? What are the various pathological alterations encountered in the septum? Why does a septum need to be hard and soft at the same time? Why is it fixed, semi-mobile, and freely mobile in different areas? Why is there a partition in the first place? These questions are the concern of all physicians, and it is my intention briefly to review some of the problems posed by them.

FUNCTIONS OF THE SEPTUM

The septum separates the nose into two parts, each of which is a distinct and complete entity. Each part has a neurologic connection with the basal nuclei in the medulla and thence with the nerve supply of the corresponding lung. It provides a hard wall in the air passage which offers controlled resistance to air currents. This resistance is essential to normal breathing, since, as you probably know, the nose offers 40 to 50 per cent of this resistance to breathing. The septum helps support and create the nasal dorsum; in other words it helps to make a roof for the nose. It also serves as a terminus for the rhythmic excursions of the turbinates. Moreover, it separates the medial crura and it supports the nasal mucous membrane. In conjunction with the upper lateral cartilages it completes the valve of the nose, and in conjunction with the turbinates it regulates the air flow and creates eddies of air currents. Finally, together with the nasal bones, it helps to protect the cranial vault.

PATHOLOGY

The pathologic alterations may involve the septum alone, or may involve the septum together with some of its associated structures. For example, a patient may have a deformed bony vault, a deformed cartilaginous vault, or both, and any of these might be associated with malformations of the lobule. The clinical abnormalities of the septum requiring surgical correction include deviations, obstructions, impactions, spurs, ridges and dislocations. Among abnormalities of associated structures may be listed the twisted nose, the saddle nose, a long nose with drooping tip and the flattened tip. Also a large hump can alter direction of air flow. Since abnormalities of the alae or nostril and columella disturb vestibular function, their correction also falls in the field of rhinologic surgery.

REQUISITES FOR GOOD NASAL BREATHING

There are certain requisites for adequate nasal breathing. The first is a good bony vault. This means one in the midline that is in proportion to the rest of the nose. Next, a good cartilaginous vault is essential; its upper lateral cartilages should be in normal relationship to the nasal septum and to the lobular cartilages. The vault should not be saddled, and it should not be projected forward in an abnormal manner. Another requisite is a good lobule; this means that it should be consistent with the age of the patient and in normal relationship with the cartilaginous vault and septum. Also, for normal breathing, a good septum is essential. A hard septum, a soft septum and a semi-soft septum are necessary. Each part of the septum should have a normal relationship to the other parts of the nose. Finally, healthy nasal mucous membrane in both nasal cavities is essential for good breathing.

RECONSTRUCTIVE SURGERY OF THE NASAL SEPTUM

Since deformities of other parts of the external nose often accompany a pathologic septum, a more extensive and flexible procedure than simple submucous resection is required. Ideally, the procedure should permit correction of any or all portions of the hard and membranous septum with avoidance of surgical trauma to uninvolved structures. Moreover, it should be possible to perform the procedure at the same time that associated deformities are being corrected.

The aim of this type of septal surgery should be to produce a good hard septum, a good membranous septum, and a good semi-membranous septum. This will help to pre-

serve a septum which functions properly or to refashion a properly functioning septum, that is, one that creates two noses, one that lends support to adjacent nasal structures and one that has adequate relationship to the lateral nasal walls. Also every effort should be made to prevent scar tissue contractions of the cartilaginous dorsum and the base of the nose (columella). The possibility of secondary atrophy and subsequent perforations can be minimized by avoiding injury to the mucosa, perichondrium, and periosteum. Moreover, in this operation it should be possible to retain or "adjust" the valve of the nose.

As in any surgical procedure, the purpose of reconstructive surgery of the nasal septum is to achieve as nearly normal an anatomic and functional result as possible with the least amount of surgical trauma. Certainly, the best septal operation that can be performed is the one which requires the least amount of surgical intervention consistent with a good functional result. The technique used must provide adequate exposure of all parts of the septum and its adjacent structures. For operations on any portion of the septum or its associated structures the incision over the caudal end of the septum, as described by Cottle,[1] not only provides excellent exposure of all parts of the nasal septum and nasal spine and dorsum, but it also inflicts the least amount of trauma to the mucous membrane, the perichondrium, and the periosteum. It is also possible, as in acute fractures, merely to realign parts of the septum or remove small portions so that there are no overlapping fragments. When deformed portions of the septum must be removed and pieces of cartilage or bone are replaced between the septal membranes, an attempt is being made to restore the anatomic relations to as nearly normal as possible. This is not a new idea. In 1902, Freer[2] published an article describing the same anatomic conception of this type of surgical procedure. However, his approach to opening the septum was not as flexible as the one described by Cottle. (Fig. 1).

The septum must be considered as an integral part of the whole nose. Operative correction of abnormalities of the septum, or any of its associated structures without due consideration of the other parts of the nose will invariably result in a poorly functioning nose. In performing operations on the septum we must keep in mind its relationship to the lateral nasal walls, the upper lateral cartilages, the nasal bones and the lobule. (Fig. 2).

Figure 1—Case No. 1. D. D.: Deviation of nasal pyramid and septum corrected by septal reconstruction and replacing bony and cartilaginous vault in the midline.

Figure 2.—Case No. 2. Mrs. D.: Dislocation of caudal end of septum and malalignment of nasal pyramid. Operation included combined reconstruction of septum, moving of external nose to midline and lobule surgery.

If the operative procedure is to include the bony vault, the cartilaginous vault or lobule, further incisions are required. The importance of this combined operation has been emphasized by many writers [3-13] (Fig. 3). A twisted nose, saddle nose or deformed lobule can be corrected at the same time

Figure 3.—Case No. 3. Mr. S. Obstructing septum, retracted columella, and external deformity of the nose, corrected by combined reconstruction of the septum, pyramid and lobule surgery.

that the septum is being operated on. Among deformities which should be corrected when a septal operation is performed are a flattened nose, which requires correction because unless corrected the nose will continue to function poorly regardless of the success of the septal operation. Also a drooping tip needs correction because it prevents proper direction of air currents. Malformations of the ala at times prevent good nasal function, as they change the direction of air currents. The relationship of the lobular and upper lateral cartilages to the septum must always be kept in mind. A crooked nose, one with a large hump, a broad nose, or an adult nose with an infantile lobule are not conducive to good nasal function. These disproportions must be corrected because *submucous resection will not correct these conditions.*

In rhinologic surgery it is impractical to try to use a routine operation, for each patient presents individual problems. Though not plastic surgeons, we as rhinologic surgeons can be plastic in our thinking if we are to achieve the desired result in each individual patient, with minimal disturbance to the normal portions of the nose.

CONCLUSIONS

Better nasal surgery is now being performed because our rhinologic surgeons are better trained and have a better understanding of the functions of the septum and its associated structures. Better results in septal operations are now being obtained when an attempt is made to restore normal anatomic relationships between the septum and the rest of the nose.

REFERENCES

1. Cottle, M. H. and Loring, R. M.: Corrective surgery of the external nasal pyramid and the nasal septum for restoration of normal physiology, Illinois M. J. 90:119 (Aug.) 1946.

2. Freer, O. T.: The correction of deflections of nasal septum with minimum of traumatism, J. A. M. A. 38:636 (March 8) 1902.

3. Cottle, M. H.: Modified nasal septum operations, Eye, Ear, Nose & Troat Month. 29:480 (Sept.) 1950.

4. Cottle, M. H. and Loring, R. M.: Newer concepts of septum surgery; present status, Eye, Ear, Nose & Throat Month. 27:403 (Sept.) 1948.

5. Cottle, M. H.: Introduction to Fundamentals of Reconstructive Surgery of Nasal Septum and External Nasal Pyramid. Laboratory Manual.

6. Cottle, M. H. and Loring, R. M.: Surgery of the nasal septum—new operative procedures and indications. Ann. Otol., Rhin. & Laryng. 57:705 (Sept.) 1948.

7. Salinger, S.: Deviation of the septum in relation to the twisted nose, Arch. Otolaryng. 29:520 (March) 1939.

8. Maliniac, J. W.: Role of the septum in rhinoplasty, Arch Otolaryng. 48:189 (Aug.) 1948.

9. Fomon, S., Gilbert, J. G., Silver, A. G. and Syracuse, V. R.: Plastic repair of the obstructing nasal septum. Arch. Otolaryng. 47:7 (Jan.) 1948.

10. Williams, R. I.: Functious of the nasal septum as related to septal reconstructive surgery. (Presented before the meeting of the Middle Section, American Laryngological, Rhinological and Otological Society, Chicago, Illinois. (Jan. 19) 1953.

11. Riggs, R. H.: The management of nasal injuries, New Orleans M. & S. J. 102:382 (Feb.) 1950.

12. Riggs, R. H.: The saddle nose. South. M. J. 44:188 (March) 1951.

13. Riggs, R. H.: The relation of septum reconstruction to external deformities of the nose. (Presented before the meeting of the Southern Section of the American Laryngological, Rhinological and Otological Society, Nashville, Tennessee, January 12, 1953. To be published).

THE PROBLEM OF THE NASAL POLYP

H. L. KEARNEY, M. D.

NEW ORLEANS

All benign nasal polyps may be divided into two classes:

1. The common nasal polyp.
2. The antro-choanal polyp.

The purpose of this discussion is to survey some of the literature on the subject and compare the two varieties of nasal polyps in regard to theories of etiology, pathology, and treatment.

Lederer[6] puts all nasal polyps under the classification of hyperplastic rhinitis and does not differentiate the nasal polyp from the antro-choanal polyp. As etiological fac-

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tors he mentions chronic rhinitis or sinus disease, deficient drainage and ventilation, and allergy. He describes polyps as edematous, fibrous, angiectatic, glandular, or cystic.

ANTRO-CHOANAL POLYP

The antro-choanal polyp is pedunculated and originates in the maxillary sinus where the pedicle is attached; this variety is much less common than the common nasal polyp and exhibits some characteristic differences from the common nasal polyp. Myers[7] found only two cases of antro-choanal polyp in more than 25,000 examinations in military service. Heck, Hallberg and Williams[4] report an incidence of 3.7 per cent of antro-choanal polyps in a series of 1,720 patients with a diagnosis of nasal polyps (used as an inclusive term) seen at the Mayo Clinic in a ten year period. Goldsmith[3] describes the origin of the antro-choanal polyp as the result of an inflammatory process within the antrum causing a herniation of the edematous lining membrane through the ostium; on the subsidence of the inflammatory process the herniated mucosa, now a polyp, has become too large to return through the opening whence it came, and thus we have the beginning of the antro-choanal polyp.

COMMON NASAL POLYP

The common nasal polyp may be pedunculated or sessile and usually arises from the middle turbinate, the uncinate process, the bulla ethmoidalis or the maxillary ostium. Opinions on allergy as an etiologic factor in the common nasal polyp vary from the idea that allergy is the cause, to the belief that allergy is sometimes the result of nasal polyposis; and in selected cases both viewpoints have strong support. Duke[2] reported that 24 per cent of 500 patients who had perennial allergy had nasal polyps, but that only 10 per cent of patients who had seasonal allergy had nasal polyps. Heck, Hallberg and Williams[4] believe that evidence of allergy is found in practically 100 per cent of nasal polyps but positive indication of an allergic factor was present in only 23.4 per cent of antro-choanal polyps in their series. Kern and Schenck[5] have suggested that true hypersensitiveness to bacteria in the presence of the allergic factor will explain the etiology of polyps, and failure to reckon with these factors is the primary cause of postoperative recurrence. To this Weille[8] says: "it must be emphasized that highly trained and experienced allergists are often unable to control nasal polyps or polypoid degeneration by their own methods in dealing with extrinsic factors, and have even less success when the allergy factor is regarded as intrinsic." And to again quote Weille, who is intrigued with the idea of a virus being the cause of nasal polyposis: "The hypothesis that a specific allergy virus or nasal viral infection can cause nasal and sinus polyposis, vasomotor rhinitis and intrinsic asthma is proposed and offers an attractive field for research."

Thus it appears that allergy is an important factor in the etiology of common nasal polyps. However, there must be other factors than allergy in the etiology of common nasal polyps because we see many patients with nasal allergy who never develop nasal polyps. In the case of antro-choanal polyps, the role played by allergy is more obscure, if it exists at all as an etiological factor.

Perhaps there might be some hormonal factor in the etiology of all nasal polyps as there seems to be in children who have laryngeal papillomatosis and in juvenile fibroma of the nasopharynx, in which cases the onset of puberty appears to alter the clinical picture. If so, I have been unable to confirm it. There has been no age, sex, or other factor in my series which would give credence to the hormonal theory of etiology of either the antro-choanal polyp or the common nasal polyp.

TREATMENT OF THE ANTRO-CHOANAL POLYP

Direct removal of the antro-choanal polyp at its attachment in the maxillary sinus is the treatment of choice, and is best done by the Caldwell-Luc approach. Recurrence is much less likely after this operation than after simple intranasal removal of the polyp. If the patient is elderly or a poor surgical risk then the simple intranasal removal should be done. Heck, Hallberg and Williams[4] report recurrence in approximate 5.5 per cent of cases in which the ex-

ternal approach was used and in 28.2 per cent of the cases in which avulsion or removal through an antrum window was employed.

G. M., white male, age 12 years, was first seen March 3, 1942, and gave a history of having had polyps removed from his nose in July 1940, and again in September 1940. The mother stated that microscopic examination of the removed tissue had been reported as benign. Examination showed a large polyp protruding from the right naris and visible in the nasopharynx with the nasopharyngeal mirror; there was a marked deviation of the septum to the left, apparently caused by pressure from the polyp. This large polyp was removed under general anesthesia March 14, 1942, with the snare; after its removal no vestige of polyp could be seen in the nose. Three weeks later a rather large polyp was already partly filling the right side of the nose, and six weeks from the time of the removal the right side of the nose was again completely filled with polyp. Right Caldwell-Luc operation was advised and was done July 25, 1942, at Southern Baptist Hospital. After removal of the lining mucosa of the antrum the polyp could be removed by simply lifting it from the nose, as it no longer had its pedicle attached in the antrum. After removal of the polyp the natural opening of the antrum was found to have been enlarged by the polyp to a diameter of at least one inch, reaching from near the antral floor to near the antral roof.

Microscopic report: "Polyp composed of edematous connective tissue containing in some areas mucous glands and in others showing acute or subacute chronic inflammation. The tissue is partly covered by transitional epithelium. No evidence of malignancy."

The patient was last seen Nov. 19, 1942, and showed no evidence of recurrence of his polyp.

Mrs. L. E., white female age 22; history of removal of polyp from back of nose on several occasions with recurrence. Posterior rhinoscopy showed a polyp in the left posterior naris coming from the left middle meatus. X-ray of the sinuses showed diffuse shadow of the left antrum. Left Caldwell-Luc operation was done Jan. 3, 1953, at Southern Baptist Hospital and the polyp was removed by pulling it back through the antral ostium.

Laboratory report: "Lymphangiomatous polyp showing slight chronic inflammation and marked edema."

TREATMENT OF THE COMMON NASAL POLYP

The simplest and most practical method of treatment of the common nasal polyp in most cases is simple intranasal excision and treatment for the allergy as indicated. Recurrence of the condition occurs sooner or later in most cases and if the patient can be kept comfortable for a year or more before recurrence of polyps occurs, then again simple removal of the recurrent polyps is the treatment of choice. If there are other rhinological indications for surgery of a more radical nature, then radical surgery should be done according to the indications. For some patients with chronic sinus infections and polyps, the Caldwell-Luc operation or ethmoidectomy may be of great benefit. In others, these procedures will be disappointing. Histological study should be made of these polyps; and when operating on extensive nasal polyposis if one finds tissue which looks different and bleeds, this tissue should be labeled for the special attention of the pathologist. Nasal polyposis can seriously obscure the issue in the patient who has carcinoma of the Schneiderian membrane or in the paranasal sinuses.

Mrs. L. H., widow, age 59. History of long standing complete obstruction of both sides of the nose. Examination showed large pedunculated polyps coming from each middle meatus. On removal of the polyps on May 1, 1947, friable, bleeding tissue was found in the left middle meatus and this tissue was labeled separately for the pathologist. While the polyps were common nasal polyps, the report on this special biopsy was: "Transitional cell carcinoma, grade III." Deep x-ray therapy was given and the patient lived for nearly six years.

In the following case the patient had spent much of her time in doctors' offices and hospitals in an earnest effort on the part of many doctors to relieve her of bilateral nasal obstruction from the common nasal polyp.

E. B., white female, single, age 42, was first seen by me July 10, 1950, with a history of more or less nasal obstruction from nasal polyps for thirty years. She was very much depressed and estimated that she had had considerably more than 500 major and minor operations on the nose and sinuses. Her trouble had started at age 12 in 1920, and the polyps were removed about twice a week for a period of a year. Then with another surgeon she had simple removal of polyps almost daily at first, then three times a week, then twice a week for a period of about three years; then another surgeon and polypectomies an average of twice a week for three years. Then a bilateral Caldwell-Luc operation was followed shortly by resumption of polypectomies. Then about three years later, she had bilateral Caldwell-Luc operations and bilateral ethmoidectomy, followed by resumption of polypectomies. At one time she had a period of treat-

ment with x-ray, ultra-voilet ray, and the electric needle.

On examination, she had polyps protruding from the left nostril and there was a foul constant discharge from the left nostril which she wiped away from time to time. Polyps were also present in the right side of the nose and mirror examination showed both posterior nares occluded by polyps. The orbits were set widely apart and she had a marked widening of the bridge of the nose. She had an alternating external strabismus, a familial condition which was present in some other members of the family. Several years previously she had had marked anemia from uterine bleeding and hysterectomy had been done for massive uterine fibroids.

X-ray examination of the sinuses was reported as follows: "The nasal cavity is greatly expanded and is rendered opaque by masses of homogeneous soft tissue density, presumably polyps. The process is more extensive on the left and probably extends into the left ethmoid labyrinth with consequent expansion of the labyrinth and flattening of the medial wall of the orbit. The antra and sphenoids are diffusely clouded. The nasal bones are widely separated. The wide separation of the orbits probably is a congenital malformation (hypertelorism) although it is enhanced by the pressure effect of the polypoid tumors."

The patient was admitted to Touro Infirmary where rhinotomy under intravenous pentothal anesthesia supplemented by intratracheal nitrous oxide was done July 22, 1950, according to the technique of Bordley and Longmire.[1] When the nose was turned back on the right side of the face on its hinge of skin and periosteum, the nasal cavities were found completely filled with polypi. (Figure 1) It was found that previous naso-antral openings had been made in the inferior meatuses and both middle turbinates had been removed. Submucous resection of the nasal septum had not previously been done, and this was done to provide better access to all parts of the nasal cavity. Ethmoidectomy had been one of her previous operations and was complete with the exception of one large posterior ethmoid cell on the left; and it was the expanding polyps in this cell which had pushed the left medial orbital wall laterally. All polypi were removed. Bleeding was more troublesome in the ethmoid areas, where it was controlled by electrocoagulation, than in the skin incisions and septum. The nose was replaced by suturing the two portions of the septum together with interrupted sutures of 0000 chromic catgut on an atraumatic needle, the sutures all being placed before the first was tied. The skin incisions were closed with subcutaneous catgut and silk skin sutures. (Figure 2)

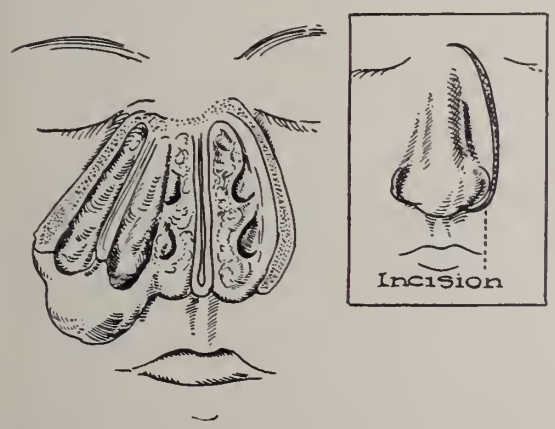

Fig. 1.—Showing the incision and the exposure in rhinotomy.

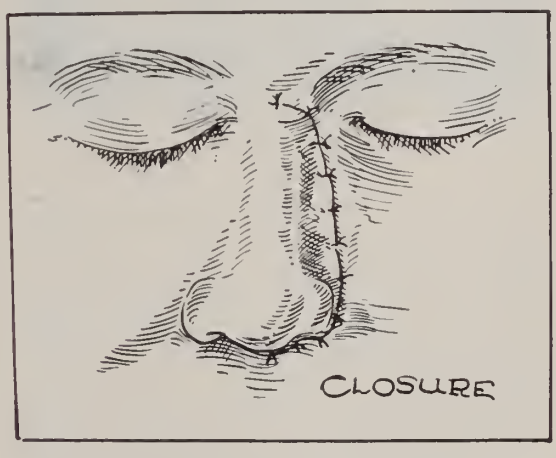

Fig. 2.—Showing the closure in rhinotomy.

The nose was loosely packed on both sides with carbozene gauze and a splint previously moulded from dental compound was attached over the nose with adhesive tape. It was estimated that 1500 cc. of blood was lost during the operation which took about four and a half hours. Transfusion of 2000 cc. of blood was started at the beginning of the operation and completed after return of the patient in good condition to her room. All tumor tissue appeared grossly to be common nasal polyps and no gross evidence of malignancy was seen. The pathologist reported the gross weight of the specimens as 23.5 grams and the microscopic diagnosis as: "Multiple benign nasal polyps." There was primary healing of the skin wound and the septum. The patient came to my office on the sixth post-operative day. Crusting in the nose was controlled by the use of nasal douches which were discontinued after about three months when the crusting ceased. There has been no recurrence of polyps.

Fig. 3.
Preoperative

Fig. 4.
Postoperative

SUMMARY

1. The characteristics and treatment of antro-choanal polyps and the common nasal polyp are discussed.

2. The importance of biopsy is stressed and a case of nasal polyposis associated with carcinoma is reported.

3. The value of rhinotomy in very carefully selected cases is discussed and a rhinotomy successful in ridding the patient of nasal polyposis, after more than 500 orthodox operations had failed, is reported.

REFERENCES

1. Bordley, J. E., and Longmire, W. P.: Rhinotomy for exploration of the nasal passages and the accessory nasal sinuses ,Ann. Otol., Rhin. & Laryng. 58:1055 (Dec.) 1949.

2. Duke, W. W.: Allergy as related to otolaryngology, Ann. Otol., Rhin. & Laryng. 36:820 (Sept.) 1927.

3. Goldsmith, P. G.: Diagnosis and treatment of inflammation of the maxillary antrum, Canad. M. A. J. 23:512, 1930.

4. Heck, W. E., Hallberg, O. E., and Williams, H. L.: Antrochoanal Polyp, Archiv. Otolaryng. 52:538 (Oct.) 1950.

5. Kern, R. A., and Schenck, H. P.: Allergy a constant factor in the etiology of so-called mucous nasal polyps, J. Allergy 4:485 (Sept.) 1933.

6. Lederer, F. L.: Diseases of the Ear, Nose, and Throat, ed. 6, Philadelphia, F. A. Davis Company, 1952, p. 490-491.

7. Myers, D.: Obstruction of the nasopharynx secondary to choanal polyp of antral origin, Archiv. Otolaryng. 44:328 (Sept.) 1946.

8. Weille, F. L.: The effect of nasal and sinus surgery upon the manifestations of allergy, New England J. Med. 242:43 (Jan.) 1950.

CURRENT TRENDS IN NOSE, THROAT AND EAR THERAPY*

G. EDWARD TREMBLE, M. D.†
MONTREAL

During recent years there has been a growing tendency among rhinologists to treat most nasal infections more conservatively than in the past.

The results of the radical sinus operations frequently practiced twenty or thirty years ago have not stood the test of time, except in the case of malignancy. As a consequence, every rhinologist is consulted by dissatisfied patients who seek relief from the resultant dryness, crusting, and headaches.

NASAL THERAPY

In the past too little thought was given to the protective mucous membrane and the importance of preserving it, if at all possible. Oily drops and sprays which were freely prescribed in almost all intranasal affections for over fifty years are now reserved for atrophic conditions with marked destruction of cilia. The popularity of silver salt preparations has also decreased due to greater knowledge of nasal physiology.

Self-medication by the laity has always been popular to relieve congestion in such conditions as the common cold, acute catarrhal rhinitis, allergic rhinitis and acute sinusitis. The pharmaceutical houses have fully realized the commercial possibilities, and as a result, every drug counter has a variety of nose drops, sprays, or inhalers prominently displayed. The millions of dollars spent annually by a sinus-conscious public to relieve "stuffiness" in the nose is only exceeded by the amount expended on laxatives.

With the advent of the sulfonamides and later the antibiotics it was only natural for laymen and often rhinologists to expect the same spectacular results locally in the nose as occurred in other fields of medicine. This

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†Assistant Professor, McGill University, Montreal; President, Montreal Branch, Canadian Otolaryngological Society.

early enthusiasm failed to recognize two or three important facts.

In the case of penicillin, Fleming has stated that it is important that the antibiotic remains in contact with the susceptible organism in sufficient concentration and long enough to be effective. Although it is too much to expect the average layman to appreciate nasal physiology, every rhinologist should know that the overlying blanket of mucus in the posterior two-thirds of the nose replaces itself every ten minutes. Also, as a quart of mucus is secreted every twenty-four hours from the glands in the nasal mucosa and exudes on to the surface, it is difficult to imagine how a topical application can penetrate this travelling conveyor belt and go is it were, against the stream. Besides when the columnar cells on the surface are swollen and engorged they offer a definite barrier to organisms that have reached the submucosa.

In view of these facts it is hopeless to expect any lasting result from the antibiotics when used in drops, sprays, inhalers or by displacement. Any benefit is usually due to the vasoconstrictor present which aids ventilation and drainage.

It has been known for a long time that an abscess surrounded by a capsule resists the penetration of any antibiotic unless injected directly into the abscess cavity. The only other logical approach is by intramuscular injection. This applies equally well in acute and subacute infections in the nose perhaps supplemented with sulfonamides by mouth. At times, if penicillin or streptomycin is ineffective or resistant strains are encountered, a change to one of the newer antibiotics is advisable.

The glowing reports attributed to the use of 5 per cent sulfathiazole as a spray in cases of subacute and chronic sinusitis have not been substantiated. The high alkilinity (pH 9 or 10) and the caustic action of the drug causes a marked destruction of the surface cells including the cilia, even when used for a short time. Besides these harmful effects, again the lack of penetration mitigates against its usefulness.

During the past twenty-five years many new facts in nasal physiology have become known. In the light of this knowledge thoughtful rhinologists should not be swayed by the enthusiastic claims of drug house representatives as to the bactericidal effect of their particular nose drops.

Recently the trend in nasal medication has been toward vasoconstrictors in saline. Ephedrine in normal salt solution, ½ or 1 per cent has long been considered one of the best shrinking agents to relieve nasal congestion. This solution has a pH of 5.9 (slightly acid) and in the above strengths does not injure the mucous membrane or interfere with ciliary action.

Unfortunately side effects sometimes occur, such as nervousness, palpitation, general weakness, nausea, and occasionally shock. In order to avoid these undesirable reactions synthetic vasoconstrictors were manufactured and are freely advertised by the press and radio. As a rule synthetic preparations produce a greater shrinkage and the action is more prolonged than when ephedrine is used.

Although the greater degree of constriction relieves the stuffiness of the nose quickly and effectively, at times this is a disadvantage. Frequently, patients after experiencing the free breathing following the instillation of the drops use them oftener and longer than is necessary. If this practice is continued to reduce swollen nasal mucosa the membrane loses its tone and it is necessary to use the drops more often. In time the mucous membrane becomes boggy and edematous and frequently resembles the appearance seen in hayfever sufferers.

At this stage the drops which have caused the condition are of no use. This type of sensitivity is seen as a result of synthetic constriction rather than when natural ephedrine is used. On the other hand, there is no doubt that the temporary relief obtained from the stuffiness or nasal blockage is quite justified, when used for a few days at a time. The comfort in breathing when ventilation and drainage are established certainly relieves the distress of the patient.

Rhinologists are fortunate at the present time to have at their disposal many vasoconstrictors in saline which are compatible with nasal secretions and do not injure the cilia or mucous membrane. It should be our duty in prescribing nasal medication in cases of acute rhinitis or sinusitis to instruct our patients how to instil the drops and to discontinue their use when the acute inflammation has subsided. At times it may be necessary to mark the prescription "not to be repeated" to avoid overmedication because although the drops relieve the congestion they do not cure the infection.

The antihistamines as a cure for the common cold can be dismissed in a few words. The early claims that these drugs aborted colds in the early stages and were also effective when colds were well developed, are of course not true. This is a good example of the public spending huge sums of money unnecessarily because insufficient research had been carried out beforehand.

THERAPY OF THROAT CONDITIONS

Throat medication has always been popular among laymen. The accessibility of the pharynx lends itself to local applications and swabbing. From time immemorial various gargles have been used for almost all types of sore throat and it is remarkable how much faith the average person has in this form of treatment. The claims of some drug companies that their particular gargle kills certain pathogenic bacteria in a few seconds might be true in the test tube but in the mouth or throat this is impossible. Paints or gargles are washed away so quickly that it is hard to imagine any beneficial result. To be effective strong antiseptics would be required and with these, of course, there is always the danger of injuring the pharyngeal mucosa. Besides, in the act of gargling with the head thrown back, it is necessary for the posterior part of the tongue to approximate the soft palate to prevent fluid from entering the larynx.

The futility of this can easily be seen by using a dye and noting the stained area or having a patient gargle with iodized oil under the fluoroscope and viewing him from the side. The dye or oil does not reach beyond the third molar tooth or the anterior pillar of the tonsil. Painting the tonsils or pharynx is of little use although the cauterizing effect of silver nitrate at times seems to give some benefit.

At times, it is necessary to prescribe some form of a gargle for patients with acute sore throats. Although every laryngologist knows that hot saline solution is often better, many patients expect an expensive gargle. Any helpful result obtained is of course purely psychological.

The one form of local treatment perhaps above all others, which soothes and comforts a patient with an acute sore throat is the old-fashioned throat irrigation. Any patient with a quinsy for instance, who has had hot saline solution directed toward the back of the pharynx with the head bent slightly forward and the throat relaxed does not need to be persuaded to have the treatment repeated. Sodium bicarbonate in solution or added to the saline also helps to dissolve the sticky mucus present.

Local treatment of the throat by means of lozenges or pastilles is of doubtful value. Soluble tablets remain such a short time in the mouth, as they are so quickly diluted with saliva, that they are quite ineffective.

When the sulfa compounds and penicillin appeared, many enterprising firms manufactured lozenges containing a small amount of these drugs. Unfortunately for the public, soluble tablets containing 1 to 3,000 units of penicillin can be purchased at drug counters in Canada without a doctor's prescription. As a result many patients practise this form of self-medication on the suggestion of their friends or perhaps the druggist. Apart from the lack of penetration in these weak concentrations there is always the danger of sensitivities or allergic reactions developing. The raw, inflamed and swollen tongue which resembles that seen in scarlet fever is typical. The patient often complains of a tingling or scalded sensation as though his tongue had been "burned with hot soup." These symptoms subside quickly on discontinuing the throat lozenges and perhaps prescribing an antihistamine by mouth.

Our present day concept in the treatment of any severe throat infection remains the same as for an acute nasal infection. If the offending organism is gram-positive adequate doses of the sulfonamides are required by mouth or penicillin by injection over a sufficient period. In a severe streptococcic infection of the throat it is unwise to rely solely on the local use of sulfa or penicillin instead of large intramuscular injections of penicillin.

THERAPY OF EAR CONDITIONS

These remarks on the treatment of nose and throat conditions apply equally well in acute and subacute infections of the ear. Sulfa and antibiotic drops have been given by the family physician and many otologists for an acute suppurative otitis media and external otitis. It is extremely doubtful if there is any advantage of these drugs locally over the older conservative methods and there is always the danger of patients becoming sensitive to the agents or resistant bacterial strains developing.

Dermatologists are frequently called upon to treat eczematous eruptions of the auricle and lobule following the instillation of antibiotic drops, the application of ointments or powders to the ear. Here again systemic therapy is safer and of greater value, chemotherapy by mouth and penicillin or streptomycin by injection, provided the masking effect is kept in mind.

In chronic mastoiditis as in chronic sinusitis little or nothing is gained by sulfa or antibiotic therapy and the false security after the administration of these drugs is sometimes dangerous.

It is wise to remember that chemotherapy and the antibiotics should be reserved for severe acute infections of the nose, throat and ear and not given for minor complaints. Theoretically, a culture should be taken to ascertain the offending organism but at times this is not always practical.

If penicillin is not effective within a few days a change is recommended to one of the newer antibiotics. Although as a rule it is nontoxic, certain patients rather easily develop marked allergies to penicillin and in some cases its use has to be discontinued.

AUREOMYCIN

Aureomycin, a golden powder which appeared in 1948, has a wide range of effectiveness against gram-positive and gram-negative bacteria. Its action however appears weaker than penicillin, if the infection present is caused solely by a gram-positive organism. Aureomycin can be given either intravenously or by mouth. The latter mode of administration is preferable in the great majority of instances because it is readily absorbed from the gastrointestinal tract and when given intravenously it sometimes produces thrombophlebitis. The liability of side effects such as nausea, vomiting, and epigastric pain should be kept in mind. Many physicians prefer to administer aureomycin at meal times or in milk—the latter tends to reduce the acidity of the drug and makes it more easily tolerated.

Lesions of the skin and mucous membrane occur fairly frequently and are suggestive of vitamin B deficiency. This may be due to the fact that aureomycin is too effective in destroying the normal bacterial flora of the intestine and thereby interfering with vitamin B metabolism. To overcome this effect the use of lacto-bacillus preparations by mouth has been advocated during the long term administration of the drug. However, this replaces only one type of organism and large doses are necessary.

Soreness of the tongue and pharynx may develop soon after the drug is started. The tongue often appears hyperemic, swollen, and very tender to the touch. In other cases it is brownish or black due to an overgrowth of the filiform papillae, the so-called black tongue. Besides glossitis and dermatitis, an annoying reaction is itchiness and irritability of mucous membrane and skin surfaces. In most of these lesions a monilia can be isolated. This again is thought to be due to a deficiency of vitamin B.

There is no evidence that aureomycin induces renal, hepatic or hematologic changes and the tendency to produce bacterial resistance is negligible.

It should be borne in mind nevertheless that the skin and mucous membrane lesions which occasionally accompany aureomycin

therapy are at worst only troublesome and usually do not require discontinuing the drug. It is important, however, that they be recognized so that means, i. e. vitamin therapy, may be taken to prevent them and when they occur the patient can be reassured. Recently, it has been found that the dosage can be reduced to a half and still be as effective. Instead of 250 mgm. every four or six hours as previously recommended 100 or 150 mgm. seems sufficient for the average adult. In this way the side effects are less noticeable.

CHLOROMYCETIN

Chloromycetin, a still newer antibiotic, has like aureomycin, been instrumental in extending the range of effectiveness to include certain bacterial diseases, such as typhoid fever, that have previously been refractory, and also, certain rickettsial diseases. Contrary to earlier reports it has no definite value in mumps. Nickerson and Worden[1] showed that in 57 consecutive cases of mumps that were uncomplicated by other diseases, it failed to exert any favorable influence on the clinical course of this condition. Chloromycetin has a low degree of toxicity. Nevertheless headache, nausea, vomiting, diarrhea, or dryness of the mouth and throat occasionally occur. At times the drug has to be discontinued because of gastrointestinal intolerance characterized by gastroenteritis. In sporadic cases, also, signs suggestive of B deficiency, similar to those described in connection with aureomycin, develop during treatment. Glossitis, "black tongue," stomatitis and pharyngitis were observed in 12 of 200 patients reported by Williams[2] during chloromycetin therapy. Of the 12 patients with complications, 9 developed *Monilia albicans* infections of the mouth and throat. These effects were not entirely prevented in patients who received vitamin supplements. Chloromycetin was discontinued in 6 patients because of the severity of the reactions. Several instances of blood and bone marrow changes during treatment with chloromycetin have been reported by Volini.[3] These changes, which disappeared when treatment was stopped consisted of granulocytopenia of the peripheral blood and granulocytic hypoplasia with maturation arrest of erythrocytes and granulocytes in the bone marrow. Some bacterial resistance can be demonstrated experimentally, but apparently rickettsial sensitivity remains unchanged during treatment. On the whole, it appears that chloromycetin has the advantage of fewer side effect than aureomycin.

TERRAMYCIN

Terramycin, another of the practical antibiotics, derived from the soil, is well tolerated and covers a wide range of gram-positive and gram-negative organisms. It has not been studied as extensively as the others but it appears to be relatively nontoxic with fewer side effects than aureomycin or chloromycetin. Occasionally, untoward effects are noted during oral administration, such as nausea, vomiting, diarrhea, and glossitis. Usually these are of little consequence but sometimes have been severe enough to require withdrawal of the drug. The gastrointestinal side effects are lessened by giving the preparation in milk. Terramycin is rapidly absorbed from the digestive tract. In general the absorption, distribution, and excretion of the drug are similar to those of aureomycin. After oral administration of 0.5 gm. of terramycin, a significant blood level, about 1 microgram per cubic centimeter, rapidly develops and persists six to eight hours. When 0.5 gm. is given orally every six hours, blood levels of between 2 and 3 micrograms per cubic centimeter are maintained. Terramycin is widely distributed throughout the tissues of the body after ingestion of the drug. Of special importance is the ability of the material to cross the normal barrier between the blood and the brain. The concentration of terramycin in the brain, as well as in the skin becomes much higher than the blood level.

BACITRACIN

If surface treatment is called for against gram-positive and some gram-negative organisms as in external otitis, bactracin is indicated. It is used mostly as a topical antibiotic and as such is both safe and highly effective. There is also less danger of skin reactions than when penicillin is ap-

plied locally. It should be borne in mind, however, that the toxicity of bacitracin when given parenterally consists for the most part of rather mild and reversible kidney damage and that this is not inevitable. Consequently, the drug can be used in generalized infections in cases in which other means of controlling the infection have failed and in these circumstances it may be life-saving. Furthermore, there is evidence that it can be combined with penicillin in a dose that is not toxic.

A list of common nose, throat and ear infections, (Table 1) compiled by Perrin Long, is given, with the antibiotic of choice. In general he favors aureomycin in most conditions, in spite of the occasional disagreeable side effects.

TABLE 1

SPECIFIC TREATMENT OF INFECTIONS OF THE NOSE AND THROAT
DRUG OR ANTIBIOTIC OF CHOICE

INFECTION	D.	PENI.	STREPTO.	AUREO.	CHLORO.	TERRA.
Agranulocytosis		II		I		II
Bronchiectasis		III	IV	I	II	II
Bronchitis				I	II	II
Common Cold						
Diphtheria		Antitoxin plus I				
Laryngotracheobronchitis		III		I	II	II
Ludwig's Angina		II		I		III
Lymphadenitis	I	II		III		III
Acute Mastoiditis	II	I		II		II
Chronic Mastoiditis	II	I		II		II
Acute Otitis Externa				I		II
Chronic Otitis Externa	III	II		I		II
Acute Otitis Media	III	II		I		II
Chronic Otitis Media	III	II		I		II
Pharyngitis (Viral)	III	I		II		II
Lateral Sinus Thrombosis	III	I		II		III
Cavernous Sinus Thrombosis	III	I		II		III
Acute Sinusitis	III	I		I		II
Chronic Sinusitis	III	III		I		II
Acute Tonsillitis	I	I		II		II
Acute Tracheitis						
Tuberculosis of Larynx-Trachea			I-PAS			
Vincent's Infection		I		II		II

I—First Choice
II—Second Choice
III—Third Choice
IV—Fourth Choice
U—Unknown
Blank—No Established Value

It remains to be seen in the future whether the newer and more innocuous chloromycetin or terramycin will be more frequently used.

Bacteriologists in general might not agree to this classification (Table 2) unless a culture was first taken and the antibiotic given only until the organism was isolated and its sensitivity determined.

Polymyxin is suggested for *Ps. Aeruginosa* but sufficient time has not elapsed to appraise its value.

TREATMENT OF EXTERNAL OTITIS

The treatment of external otitis has changed in recent years. This is due in great measure to our increased knowledge and the recognition of the importance in maintaining the normal "acid mantle" to

TABLE 2

PRESENT DAY USAGE OF ANTIBIOTICS IN INFECTIONS

Type of Infection	Peni.	Strepto. or Dihydro.	Aureo.	Chloro.	Terra.	Sulfa.
Streptococcal Infections						
1. Beta Hemolytic	IA		IB	II	IB	
2. Alpha Hemolytic	I		II	III	II	
3. Non Hemolytic	IA		IB	N	IB	
4. All Enterococci	III*	II*	I	III	II	
Staphylococcal Infections	II		I	II	III	
Pneumococcal Infections	I		II	III	II	
Gram-Neg. Bacillary Infections						
1. E. coli			IA	I	I	
2. Kl. pneumoniae			IB	IA	IB	
3. Proteus						Plus
4. A. aerogenes			IB	IA	IB	
5. Ps. aeruginosa		Polymixin is best			III	Plus
6. H. influenzae				I		

IA—First Choice
IB—Second Choice
II—Effective
III—Good
N—Not Evaluated
*—Can Be Combined
Blank—Not Effective

the skin of the ear canal. It is now thought that the vast majority of cases of "infectious" otitis externa are caused by bacteria and only perhaps about 15 per cent of fungus origin.

Many newer forms of local treatment are at present available.

Neomycin was discovered in 1949, by Waksman and Lechevalier[4] as a result of a search for an antibiotic possessing activity similar to streptomycin but less toxic. However, in use neomycin has been found to be as toxic as streptomycin in many respects and shows little advantage over other antibiotics. It can be used topically in cases where the organism is resistant to all other antibiotics. In cases of external otitis, where the offending organism is most frequently *Ps. aeruginosa*, a 1 per cent solution of neomycin in saline is often effective. A pack of gauze or absorbent soaked in neomycin is inserted into the canal and the patient given a bottle of this solution to keep the pack moist. The results have been good with very little likelihood of sensitivities developing. Neomycin in saline is quite stable and will remain potent for at least six months at room temperature although it may turn slightly brown. The discoloration does not impair its effectiveness but for this reason refrigeration has been recommended. For the dry scaly type of eczema in the ear canals neomycin sulfate, 5 mg. per gram (Myciguent) is often useful to relieve the dryness and itchiness. It is quite stable. An agent which seems effective in many cases is sulfamylon.[6] This solution has been shown to eradicate many gram-positive as well as gram-negative organisms including *B. pyocyaneus*. A new 5 per cent mixture of sulfamylon, containing benzocaine in propylene glycol, has been used experimentally in recent months. It appears to be an improvement as the benzocaine relieves any

burning sensation and the propylene glycol acts as a wetting agent allowing deeper penetration. The pH is well within the acid range being btween 4.5 to 5.0. Apart from local treatment terramycin by mouth often increases its effectiveness.

Polymyxin B sulfate in acidified propylene glycol (aerosporin)[6] is another solution that destroys pseudomonas and certain staphylococci and streptococci. It is claimed that it also kills certain fungi. Aerosporin 0.1 per cent in methyl cellulose has also been found useful to relieve itchiness. Swabbed gently along the canal wall it forms a protective coating which is very soothing. Aerosporin may be used with other antibiotics when indicated. For instance, it may be combined with bacitracin which is effective against many gram-positive organisms. Both Polymixin B and Bacitracin have low degrees of toxicity. A suitable ointment containing these two drugs (polysporin) has been found useful in certain types of dry eczema.

In fungus infections cresatin is still perhaps one of the most helpful agents. A cotton wick saturated with this solution is inserted into the affected canal and the patient instructed to keep it moist. When prescribed for the patient it is wise to dilute cresatin in olive or almond oil (cresatin one part and vegetable oil, three parts) because if used repeatedly at full strength there is always the danger of excessive exfoliation of surface epithelium. The wick is removed in twenty-four hours. Usually at that time the skin of the canal appears white and often a cast of the whole canal comes away on gentle swabbing or irrigation.

After a few such daily treatments the canal usually appears widely open and the symptoms are relieved. At times patients find the odor of cresatin very disagreeable. When this occurs a few drops of oil of peppermint, wintergreen or cinnamon, added to the solution relieves this condition, (5 to 10 drops of any of the essential oils per ounce).

Ilotycin is a new antibiotic produced by a strain of *Streptomyces erythreus*. It is said to be particularly useful against infections caused by gram-positive organisms resistant to other antibiotics or hypersensitive to penicillin. No contraindications to its use have been discovered and few side effects, such as gastrointestinal upsets reported, in the dosage recommended. It is supplied in 100 mg. coated tablets. For moderate infections 300 mg. every eight hours is usually sufficient for the average adult. Although a promising agent in various streptococci, staphylococci and pneumococci infections, it has not been available long enough to thoroughly appraise its value.

CONCLUSION

No doubt, in time other antibiotics without distressing side effects will be added to our armamentarium which will prove of still greater benefit to mankind. Although many of the acute infections in our specialty can now be controlled with these newer agents, by endeavoring to enlarge our field there is no need of pessimism in the future of otolaryngology.

REFERENCES

1. Nickerson, G. H. and Worden, E. M.: Chloromycetin in the treatment of mumps, Canadian M. A. J., 66:17, 1952.
2. Williams, Bryan, Jr.: Amer. Prac. & Dig. Treat., 1:897, 1950.
3. Volini et al.: J. A. M. A. 142:1333, 1950.
4. Waksman, S. A. and Lechevalier, H. A.: A New Antibiotic Active Against Streptomycin—Resistant Bacteria, Including Tuberculosis Organisms, Science 109:305, 1949.
5. Diehl, K. L.: Sulfamylon in the Treatment of External Otitis, Arch. of Otolaryng. 55:68 (Jan.) 1952.
6. Jawetz, E.: Infections with Pseudomonas aeruginose Treated with Polymyxin B., Arch. Int. Med. 89:90, 1952.

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INDICATIONS FOR HYSTERECTOMY

HERBERT E. SCHMITZ, Sc. D., M. D.
CHARLES J. SMITH, M. D.
CHICAGO

In the formative years of the surgical era in medicine, operative techniques were developed to deal with specific problems. Variations in these problems provided modifications of technique and gave rise to the many operative procedures known un-

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From the Department of Obstetrics and Gynecology, Stritch School of Medicine, Loyola University.

der the names of their originators. As a rule, certain indications were required and certain conditions insisted upon. With the improvement of the adjunctive sciences such as anesthesia, physiological chemistry, a broader understanding of shock and the means of combatting hemorrhage, the tendency in late years has been to generalize in the matter of pelvic surgery and, in particular hysterectomy.

We have reached the point now where we find the general surgeon treating all uterine pathology by abdominal hysterectomy and the gynecologist attempting to do most of his procedures vaginally. In the gynecological field there are groups in contention as to the best method of hysterectomy: total abdominal, subtotal abdominal and vaginal; and many statistical data have been exploited to maintain that one method serves less morbidity and mortality or greater comfort than another. We have attempted to maintain an open mind on this question, and over a period of years have attempted to suit the operation to the particular needs and physical circumstances. With a significant number of cases to review, we felt that we might evaluate this question of superiority of one method over another. Since the cases were all drawn from a single service and subjected to the same preoperative and postoperative care, a closer scrutiny might be made of any disparity in results.

TABLE 1

Operation	Number of Cases	Percentage
Total abdominal	380	51.48
Subtotal abdominal	43	5.79
Vaginal	319	42.73
Total	742	100.00

The distribution of cases is depicted in Table 1. The fortuitous numerical equality in abdominal and vaginal cases better serves our purpose of comparison.

The age distribution according to type of operation immediately brings to light an important indication. Table 2 reveals 80 per cent of the abdominal procedures were employed in patients under 50 years of age, while less than half the vaginal operations were performed in that age group. The reasons, of course, are almost self evident. In the advanced age group, the incidence of pelvic floor relaxation is much higher and the appropriate plastic procedures are combined with the removal of the uterus. In certain instances, the relaxation provided the primary indication for surgery and the uterus was removed in order to better cope with extensive prolapse. Vaginal procedures, too, are better suited to those patients requiring a less traumatic procedure because of cardiovascular-renal debilities or other infirmities of age.

TABLE 2
AGE DISTRIBUTION

Age Group	T.A.H.	Vaginal	Subtotal
20-30	21	....	2
31-40	114	56	19
41-50	176	116	16
51-60	49	91	1
61-70	13	42	2
71-80	1	2	1
Unknown	6	12	2
Total	380	319	43

TABLE 3
TOTAL ABDOMINAL HYSTERECTOMY

Operation	Number of Cases
Hysterectomy	90
Hysterectomy and bilateral salpingo-oophorectomy	133
Hysterectomy and unilateral salpingo-oophorectomy	106
Hysterectomy and appendectomy	42
Hysterectomy and herniotomy	7
Hysterectomy and vaginal plastic	2
Total	380

TABLE 4
SUBTOTAL HYSTERECTOMY

Operation	Number of Cases
Hysterectomy	10
Hysterectomy and bilateral salpingo-oophorectomy	16
Hysterectomy and unilateral salpingo-oophorectomy	5
Hysterectomy and appendectomy	10
Hysterectomy and cholecystectomy	1
Hysterectomy and bilateral salpingo-oophorectomy and colostomy	1
Total	43

One of the great advantages of the abdominal technique is the ready access to the adnexa. Table 5 demonstrates, how-

TABLE 5
VAGINAL HYSTERECTOMY

Operation	Number of Cases
Hysterectomy	66
Hysterectomy, anterior colporrhaphy and perineorrhaphy	194
Hysterectomy and perineorrhaphy	24
Hysterectomy and anterior colporrhaphy	4
Hysterectomy, anterior colporrhaphy, perineorrhaphy and bilateral salpingo-oophorectomy	8
Hysterectomy and unilateral salpingo-oophorectomy	9
Hysterectomy and bilateral salpingo-oophorectomy	2
Hysterectomy and vaginal obliteration	4
Hysterectomy and ovarian cystectomy	5
Hysterectomy and unilateral salpingo-oophorectomy and anterior and posterior colporrhaphy	2
Hysterectomy and unilateral salpingo-oophorectomy and perineorrhaphy	1
Total	319

ever, that the vaginal operation does not preclude reasonable surgical attack on tubes and ovaries. We deplore such adjunctive procedures of a magnitude to be classified as a "stunt." Nevertheless, the pelvic surgeon will occasionally encounter technical complications or unexpected pathology which will extend the scope of any individual case. It is valuable to remember that most of these situations can be met from the vaginal approach.

TABLE 6
PATHOLOGY OF ORGANS REMOVED VAGINALLY

Myomata	125
Chronic cervicitis	125
Adenomyosis	49
Polyps	17
Fibrosis uteri	13
Leukoplakic cervicitis	15
No pathology	5
Hyperplastic endometritis	5
Adenoacanthoma	4
Chronic salpingitis	4
Simple ovarian cyst	4
Serous cystadenoma	2
Endometriosis	2
Dermoids	2
Carcinoma of the cervix	1
Retained secundines	1

A survey of the surgical specimens shows myomata to have been present in 63 per cent of cases and to have been the principal surgical indication in all three groups. The survey disclosed, however, that there were thirteen instances of unsuspected malignancy. Most of these represented malignant degeneration of benign conditions. Routine preoperative curettage is of great value and is mandatory in bleeding cases of doubtful etiology. Nevertheless, short of subjecting all tissues to frozen section analysis, undetected malignancy will certainly appear in any group of cases.

TABLE 7
PATHOLOGY OF ORGANS REMOVED IN TOTAL ABDOMINAL HYSTERECTOMY

Myomata	314
Chronic cervicitis	65
Endometriosis	34
Simple ovarian cysts	61
Salpingitis	33
Benign ovarian cystomata	17
Adenomyosis	21
Polyps	19
TB salpingitis	4
Malignant ovarian cystadenoma	3
Sarcoma	1
Adenocarcinoma	1
Carcinoma of the cervix	1
Fibroma of the ovary	1
Dermoids	3
Brenner tumor	1
Cystadenomata	2

TABLE 8
PATHOLOGY OF ORGANS REMOVED BY SUBTOTAL PROCEDURE

Myomata	35
Salpingitis	12
Endometriosis	5
Adenomyosis	2
Endometrial carcinoma—Group I	1
Endometrial polyp	1
Carcinoma of rectosigmoid	1

Bleeding and urinary tract symptoms

TABLE 9
SYMPTOMATOLOGY

Symptom	Number of Cases	Percentage
Bleeding	345	46.49
Pain	235	31.67
Urinary Symptoms	196	26.41
Prolapse	148	19.67
Dysmenorrhea	117	15.63
Backache	107	14.28
Abdominal Mass	112	15.09
Asymptomatic	67	9.02
Secondary (Fatigue, dizzy spells, edema, etc.)	169	22.77

provided the principal symptoms in these 742 cases. In only 9 per cent was the indication for surgery discovered on routine examination. This symptomatology reflects that usually reported in such series.[1]

The bleeding was principally prolongation or exaggeration of menstrual flow. The urinary symptoms were chiefly those of incontinence or frequency.

In Tables 10 and 11 we find evidence to

TABLE 10
MORBIDITY

Cause	Vag. Hyst.	T.A.H.	Subtotal
Cystitis	45	27	2
Pyelitis	11	9	1
Pneumonitis	4	9	1
Upper respiratory infection	5	6	1
Dehydration	3	6	1
Undetermined	6	11	1
Wound infection	..	7	2
Pelvic abscess	2	..	..
Thrombophlebitis	2	2	..
Retained sponge	1	..	..
Peritonitis	...	4	..
Enteritis	..	1	..
Total	79	82	9
Percent Morbidity	24.76	21.59	20.93

TABLE 11
HOSPITAL DAYS

Days	10	10-15	16-20	21-25	25
T.A.H.	132	197	27	15	11
Vaginal	64	188	43	6	8
Sub-Total	7	30	2	2	2

show that very little choice exists between methods as far as morbidity rates are concerned. The 742 cases suffered an over-all morbidity of 22.9 per cent found mainly in urinary tract complications. The majority of cases were discharged from the hospital within satisfactory time limits, regardless of the technique employed. Two patients died, giving a mortality rate of 0.26 per cent. One occurred following a vaginal hysterectomy and plastic from a bronchopneumonia secondary to a retriperitoneal abscess. This death took place early in the study and might possibly have been avoided had antibiotics been in general use. The other succumbed on the second postoperative day from what today would be recognized as lower nephron syndrome, following a subtotal procedure. The surgical complications are listed in Table 12.

TABLE 12
SURGICAL COMPLICATIONS

Site	Vaginal	T.A.H.	Subtotal
Ureter	1	1	..
Bladder	3	1	..
Bowel	..	1	1
Evisceration	...	1	1
Total	4	4	2

The morbidity rates in this series are comparatively low in reference to the general literature.[2, 3] The period covered by the study was from 1940 to 1952 and during this time antibiotics, early ambulation, and the establishment of blood banks were introduced as surgical improvements. Undoubtedly, these innovations influenced the outcome in these cases to no small extent.

The results of this twelve-year survey do not suggest any need for change in our thinking in regard to selection of procedure. Undoubtedly, the scope of vaginal hysterectomy could be broadened and some improvement in morbidity obtained.[4] However, the vaginal morbidity that might be avoided by abdominal approach may have been better served by a vaginal operation than any other. It is our contention that the procedure selected should be based upon existing pathology, physical capacity of the patient and the functional derangement present. We feel that sparing the cervix accomplishes no end, except in those instances where extensive residue of inflammation makes the total procedure more hazardous. It has not been our experience that removal of the cervix results in shortening, dyspareunia, scarring, or dryness. This opinion is shared by other authors.[5, 6]. If no other indication existed, the incidence of 3 per cent stump carcinoma in most cervical malignancy studies would suffice for the total operation.

We submit that a return to individualization of cases is worthy of re-emphasis and that the use of a variety of techniques enhances rather than detracts from the quality of the surgeon's accomplishments.

CONCLUSION

1. A series of 742 cases of hysterectomy for nonmalignant conditions is presented.

2. A variety of procedures is available to the experienced operator without needless increase in morbidity or mortality.

3. No superiority is demonstrated in favor of one operative procedure over another.

4. The patient's advantage is best served by adapting the operation to her existing pathology and physical condition.

REFERENCES

1. Harden, A. S.: J. Med. Soc. N. Jersey 45:548 (Nov.) 1948.
2. Weis, W. C.: Am. J. Ob. & Gynec. 56:1151, 1948
3. Curtis, W. W., Suckow, Earl, and Huffman, J. W.: Am. J. Ob. & Gynec. 59:989, 1950.
4. Allen, Edward: Am. J. Ob. & Gynec. 57:697, 1949.
5. Crawford, J. B., Collins, C. G., and Weed, J. C.: Surgery, Gynec. & Ob. 88:465, 1949.
6. Aldridge, A. H. and Meredith, R. S.: Am. J. Ob. & Gynec. 59:748, 1950.

CURRENT APPROACHES TO THE CONTROL OF POLIOMYELITIS

JOHN P. FOX, M. D., Ph. D., M. P. H.*
NEW ORLEANS

Although few would question the concept that poliomyelitis constitutes a problem which justifies serious interest in its control, it may be worthwhile to consider briefly the actual scope and nature of the problem presented.

In the first place, poliomyelitis is relatively new as a disease entity of importance. While, in retrospect, Louisiana enjoys the dubious honor of having experienced what was probably the first real outbreak of the disease in this country—a small episode among young children in West Feliciana Parish in the 1840's[1]—epidemics in the United States did not begin to occur until the 1890's and the first nationwide outbreak of great magnitude was that of 1916. Although the increasing recognition and reporting of milder cases of poliomyelitis must be borne in mind when one compares current with past incidence of the disease, there is little doubt but that, over the past fifty years, a major increase has taken place on a nationwide basis. To illustrate this it may be mentioned that the average annual incidence rates per 100,000 population in the United States were 3.9 in the period 1920-1924 and 13.8 in 1944-1948.[2]

Secondly, although relatively spared until recently, the South is now experiencing a sharp increase in epidemic occurrence. The relative sparing in the past is suggested in Table 1 which distributes northern and southern counties by average annual incidence rates of poliomyelitis in the period 1932-1946. Only about 37 per cent of southern counties had rates in excess of 5 per 100,000 population while, for the northern counties, the figure was about 74 per cent. The new turn of events in the South is underlined by the recent severe outbreaks which have occurred, to mention only a few, in North Carolina, Texas, Mississippi, and, in the past two years, Louisiana. Unless blocked by effective control measures, this new trend in the South seems certain to continue.

A third point worthy of note is the shift in age selection of cases. Because it eliminates the variable inherent in morbidity reporting, a study of the proportionate distribution of fatal cases by age may best serve to illustrate this shift. Selected data from the North and the South are shown in Table 2. The shift in proportion of fatal cases to the older age groups in both sections of the country is evident. It is interesting to note, however, that the shift has progressed further in the North than in the South. Aside from its implications to the epidemiology of poliomyelitis, i. e. that the average age of first exposure to infection is increasing, this shift is important to the scope of poliomyelitis problem because of the well established relation between age and severity of disease. This is illustrated by figures from the 1949 epidemic in New York City, shown in Table 3, which indicates a marked correlation between increasing age and frequency of bulbar paralysis and of death among reported cases of poliomyelitis.[5] Thus, as this shift progresses, we may expect an increasing proportion of severely paralyzed and fatal cases.

Having seen that poliomyelitis is a problem of some current magnitude and that it

*From the Section of Epidemiology, Department of Tropical Medicine and Public Health, School of Medicine, Tulane University of Louisiana.

TABLE 1

PERCENTAGE DISTRIBUTION OF NORTHERN AND SOUTHERN U. S. COUNTIES BY AVERAGE ANNUAL POLIOMYELITIS INCIDENCE RATES PER 100,000 POPULATION (1932-1946)*

Counties	Number of Counties	Per cent of counties with indicated rates				Total Percent
		0-4	5-9	10-19	20 +	
Northern	1948	36.1	38.7	21.3	3.9	100.0
Southern	1147	62.8	29.2	7.4	0.6	100.0
U. S. Total	3095	45.9	35.2	16.1	2.7	99.9

*—Adapted from Gilliam, et al[3]

TABLE 2

PROPORTIONATE DISTRIBUTION BY AGE OF POLIOMYELITIS DEATHS IN NORTHERN AND SOUTHERN STATES IN THE PERIODS 1920-24, 1930-34, 1940-44*

Years	Northern States †						Southern States ‡ (white only)					
	Total Deaths	% of deaths in age groups					Total Deaths	% of deaths in age groups				
		0-4	5-9	10-19	20 +	All Ages		0-4	5-9	10-19	20 +	All Ages
1920-24**	1033	39.4	21.4	22.4	16.8	100.0	232	76.8	9.1	7.3	6.9	100.1
1930-34	1124	21.2	26.0	31.9	20.8	99.9	371	59.6	19.2	12.9	8.4	100.1
1940-44	622	5.9	20.9	41.2	32.0	100.0	399	37.8	18.8	27.1	16.3	100.0

*—Adapted from figures presented by Dauer[4].
†—Conn., Mass., N. Y. (exclusive of New York City), N. J., and Minn.
‡—Ala., Ga., Tenn., Va., Miss.
**—1920-24 figures based only on 3 states (Mississippi, Tennessee and Virginia).

TABLE 3

CASE FATALITY AND CASE PARALYTIC RATES FOR POLIOMYELITIS, BY AGE, IN NEW YORK CITY, 1949*

Age Group (Years)	Number of Cases Reported	Per cent of cases		
		Paralyzed (All Forms)	Paralyzed (Bulbar)	Fatal
0-4	709	71.8	11.7	4.2
5-9	775	56.3	16.8	6.1
10-14	434	53.0	18.4	5.3
15-19	202	62.9	21.8	17.3
20 & Over	326	61.1	16.9	13.5
All	2446	61.3	16.0	7.3

*—Adapted from Greenberg et al[5]

is increasing in importance, especially in the South, we are ready to consider the question of control. This can be broken down, as in the case of any infectious disease, into a number of well defined approaches. These are summarized in Table 4.

An obvious first main approach is an attempt to prevent infection. To the extent that infection is not prevented, our second objective is to minimize its consequences. This objective may be sought by at least four approaches. One is to recognize and,

TABLE 4

PRINCIPAL APPROACHES TO THE CONTROL OF POLIOMYELITIS

Overall Objective	Specific Approach
1. Prevent Infection	Attack on sources of infection
2. Minimize consequences of infection	a. Attack on factors operating to convert infection into disease b. Passive immuno-prophylaxis (e. g. gamma globulin) c. Active immuno-prophylaxis (e. g. vaccine) d. Specific therapy
3. Acquisition of further knowledge	Continued laboratory and epidemiologic investigations

when possible, mitigate those factors which determine that infection in a given instance will evolve into a case of overt disease. It is well recognized, of course, that perhaps no more than once in 100 times does infection result in disease. A second approach, when exposure threatens, is to utilize passive, transient immuno-protection in the form of gamma globulin. Even better, when and if it becomes available, would be a third approach, i. e., the utilization of active, more enduring immuno-protection as induced by a true vaccine. For the sake of completeness one should also mention as a fourth approach, in the event that disease is not prevented, the possibility (yet to be realized) of specific therapy. And finally, one hardly needs to be reminded that all of the foregoing approaches are limited by our present incomplete state of knowledge and that, very pertinent to the problem of control, are continuing efforts to expand our knowledge.

In the following, these approaches will be taken up in order. In the discussion of each, an effort will be made to review briefly current knowledge, to point out specific practical measures for control which can now be taken, and, when indicated, to speculate as to measures which may become practical in the future.

THE PREVENTION OF INFECTION

The prerequisite for the prevention of infection is specific knowledge as to what are the sources and the principal modes of transmission of poliomyelitis viruses. Innumerable investigations have established that, with the exception of certain flies[6, 7] and roaches,[8] man constitutes the only animate source of virus. The great stability of the viruses in the free state, however, suggests that environmental contamination by man may result in important inanimate sources. Perhaps because of the inability of the viruses to withstand drying, rather diligent efforts to recover the agents from house dust collected from rooms occupied by polio cases have been unsuccessful.[9] Sewage has often been shown to contain virus,[10, 11] and would seem to constitute the most important inanimate source. However, proper treatment of sewage (as by the activated sludge method) destroys the virus[12] and the levels of free chlorine commonly present in community water supplies are adequate to protect such supplies against sewage contamination.[13] While streams, swimming waters, and unprotected private water supplies remain as possible and even probable sources of sporadic infections, man himself emerges as the principal source of infection.

How long the individual human source endures is a matter of some moment. Overt cases are most capable of transmitting the disease by contact during the period of from three or four days before onset of illness to six or seven days after onset,[14] and it is during this same period that, chiefly in cases of paralytic disease, virus is most apt to be present in the oropharyngeal secretions.[15] However, virus is regularly present in the stools of all infected persons and for a much longer period, having in some instances been detected ten to twelve weeks after onset of illness.[16] It is possible that the amount of virus shed in the stool varies, being at a maximum during the period of apparent case infectivity or communicability. This point merits investigation. For the sake of completeness, it should also be pointed out that recent evidence obtained in chimpanzees[17] and cynomolgous monkeys[18] suggests that there may be a period of viremia in man preceding overt signs of illness. No evidence exists as yet, however, which suggests that virus in the circulating blood is important to transmission.

A further problem is recognition of the individual sources. Clinically evident infections are relatively simple but constitute but a small fraction of all infections. The most important fact, in this connection, is that the frequency of infection in asymptomatic persons is related to their degree of proximity to overt cases. This has been evident in several studies but is perhaps best illustrated by observation made in Chicago in 1945 and 1946,[19] and summarized in Table 5, which revealed the proportion of infected persons under 21 years of age to decrease in direct relation to their degree of contact with the overt, index cases. Among

TABLE 5

SUMMARY OF RESULTS OF STOOL EXAMINATIONS FOR VIRUS OF POLIOMYELITIS CONTACTS UNDER 21 YEARS OF AGE IN CHICAGO, ILLINOIS, 1945[1]

	Virus Present	Virus Not Found	Total	Percent Positive
All contacts[2]	26	20	46	57
Household contacts	17	6	23	74
Extra-household	9	14	23	39
Non-Contacts	2	16	18	11
Controls	0	5	5	0

[1]Adapted from Gordon, F. B., *et al*[19]

[2]A contact is a person who had contact with an active case within the period of three days before, to three days after onset.

contacts, furthermore, young individuals are more likely to be infected than older ones. Brown and Ainslie,[20] for example, studied 22 persons in 3 polio households and isolated virus from the stools of 12 persons who included all of the 10 individuals younger than 12 years of age. Finally, among the general population and without relation to overt cases, it seems evident that most infected persons will be found in the young age groups.

The exact mode of transmission from infected to noninfected persons is still not firmly defined. Rather obviously, in regions where flies have ready access to human feces as in certain rural parts of this country and in many backward parts of the world[7] flies, and perhaps roaches, may play a dominant role. In such areas, however, polio is endemic rather than epidemic. While any of the many other indirect mechanisms by which a stable infectious agent present in the feces may reach the mouth of a susceptible individual probably operates on occasion, there is a growing body of evidence suggesting that personal contact is important in epidemic spread. Typical of this are the studies by Casey and Associates in Walker County, Alabama, and Chicago;[14, 19, 21] the household studies by Brown and Ainslie already mentioned;[20] and the demonstration in New York City during the 1949 outbreak of an attack rate among household associates of cases 15 times greater than that in the city at large.[5] It seems likely, moreover, that intimate physical contact rather than airborne transmission is chiefly involved. On the one hand, school attendance has not been shown to influence disease occurrence,[5, 22] and out-of-door play contact of summertime seems incompatible with respiratory spread. On the other hand, the poor personal hygiene of young children, their scant summer clothing, and their hand-to-mouth play habits make transfer of fecal contamination not only possible but probable.

With this background of information one can say that measures intended to minimize the occurrence of infection in most parts of the United States should focus on young individuals, under age 10 or 12, and should relate especially to their promiscuous physical contact. As a general measure, training of children in personal hygiene, especially handwashing after the toilet, is to be recommended. Also, while usual play contacts should not be ordinarily be discontinued, new contacts should definitely be discouraged during the polio season and especially as an epidemic appears imminent. This means avoidance of public playgrounds and of crowded swimming places (fecally contaminated water is an added hazard in this case), discouragement of large children's parties and of family visits out of the neighborhood, and a restriction on trips to, through, or from areas of increased incidence. Certain other steps are indicated with reference to individual overt cases. Not only should the cases themselves be isolated until seven to ten days have passed after onset (and careful excreta disposal practiced for a still longer period), but a modified quarantine might reasonably be placed on child-contacts of cases, especially those in the same household. This should be maintained for from two to four weeks. Except in rural areas where school and school buses constitute a principal oppor-

tunity for contact between children, schools need not be closed, or their opening delayed. And, finally, it goes without saying that usual measures of environmental sanitation which relate to spread of fecal contamination should be rigidly maintained in force.

MEASURES TO MINIMIZE THE CONSEQUENCES OF INFECTION

While full implementation of the measures just outlined should materially reduce the spread of polio viruses, it would not constitute a complete control program. Amongst adults and noncontact children there would remain numerous unrecognizable sources of infection which would not be adequately controlled. For this reason, the continued occurrence of infections must be expected and our program must include measures to minimize their consequences.

Factors predisposing to paralytic disease: It is impossible in the available time and space to review adequately all of the evidence which bears on the question as to why a certain few individuals of the many infected are singled out to be afflicted with serious disease. Some of the partial answers to this question fail to suggest corresponding counter measures for control. In this category are such agent factors as size of infecting dose and virulence of the infecting virus strain,[23] and such host factors as genetic background,[24] sex, age[5, 25] and pregnancy.[26] In the case of certain other factors such as nutritional state and antecedent or concomittant heterologous infection[27] there is as yet too little knowledge.

There remain certain factors, however, which clearly seem to influence the course of infection and about which something can be done. Although opposing voices are still to be heard,[28] the best available evidence indicates that tonsillectomy within the previous thirty days heavily predisposes to the development of bulbar polio and possibly to spinal paralytic disease as well.[29] It is of special interest that a leading otolaryngologist has very recently espoused this view.[30] That recent inoculations, especially with vaccines commonly used in childhood, may determine the site of paralysis and even increase the risk of paralysis (perhaps by a factor of 2 or 3) has become generally recognized although the mechanism involved is still uncertain.[31, 32] Finally, chilling, fatigue, and physical activity[33] have been commonly indicted. Particularly striking has been the evidence that usual activity about the home,[34] and the fatigue associated with prolonged ambulance travel to a distant polio center[35, 36] on or shortly after the day of onset of illness is associated with aggravation of the disease.

The foregoing evidence would seem to dictate the following specific recommendations. Elective tonsillectomies should not be performed during a period beginning at one month prior to the anticipated polio season and continuing until the seasonal rise has terminated. The same recommendation holds for immunization procedures with two exceptions: routine immunizations of children in the first year of life and any indicated emergency immunizations should be given. Children, in general, should avoid overfatigue from physical exertion and chilling during the polio season. Also, parents should watch their children with care and, at the first sign of febrile illness, put them to bed until, with a physician's help, a diagnosis can be established. And, finally, when polio is suspected, immediate transport to a distant hospital should be discouraged unless actual signs of bulbar involvement are detected.

Passive immuno-prophylaxis: Although specific antibody after onset of illness is of no value, there is ample evidence that it has a prophylactic effect if given earlier. For human use the most practical source of antibody against all three types of polio virus appears to be gamma globulin prepared from large pools of human plasma, specifically that prepared by the Red Cross. In the laboratory it was shown that such gamma globulin is possessed of significant amounts of neutralizing antibody of each type[37] and that, in adequate dosage, it did in fact protect monkeys against challenge although permitting the challenged host to develop active response to the challenge infection.[38, 39]

With this background of information,

the now famous human trials were conducted, in 1951, in Utah, and in 1952, in Texas and Iowa.[40] These took place in three separate communities, in each case early in the course of a severe epidemic, and included a total of 54,772 children between the ages of 1 and 11 years. Half of these children received from 4 to 11 ml. of gamma globulin, depending on their weight, and the remainder received a gelatin placebo and served as controls. Analysis of the results, summarized in Table 6, showed that during the first week after inoculation the numbers of cases in both groups were nearly equal, although the cases in the gamma globulin group were definitely milder. During the second through the fifth week there was a marked difference, with many fewer cases in the gamma globulin group. Beyond the fifth week no difference in numbers could be detected. From the data presented one may conclude that inoculation of 27,386 children with gamma globulin prevented 38 cases of polio from occurring and probably exerted a favorable influence on some 17 of the 26 cases which occurred in spite of gamma globulin. It may be presumed, although the evidence has not yet been presented, that many of the protected children also safely acquired an active immunity.

TABLE 6

SUMMARY OF RESULTS IN HUMAN TRIALS OF GAMMA GLOBULIN IN IMMUNO-PROPHYLAXIS OF POLIOMYELITIS*

Interval After Inoculation (Weeks)	Number of Cases in Group			Per Cent of Total in Gamma Globulin Group
	Gamma Globulin	Gelatin	Total	
1	12	16	28	42.9
2	3	23	26	11.5
3	2	8	10	20.0
4-5	1	7	8	12.5
6-7	6	8	14	42.9
8 +	2	2	4	50.0
Total	26	64	90	28.9

*—Adapted from Hammon, *et al*[40]

The foregoing evidence provides a scientifically sound basis for the recommendation that gamma globulin be given as a prophylactic measure when exposure threatens. The practical difficulties related to complying with this recommendation are great, however. The most cogent is that of supply and expense of gamma globulin. On the average, one prophylactic dose is derived from one pint of blood. Although the Red Cross, which has accepted the responsibility, is making every possible extra effort, the collection of blood is falling far behind the estimated needs. A second problem is in deciding what degree of threatened exposure warrants the use of gamma globulin. Ideally, perhaps, all children under 12 years of age should receive it at the outset of the anticipated polio season. Actually, because of short supply, it must be limited to young children in communities actually experiencing an epidemic or in households in which a case has already been diagnosed. A third difficulty derives from the transient nature of the protection afforded and the lack of a ready test for active immunity. Unless a child can be shown to have become immune, a second inoculation may be desirable in the course of a long drawn out epidemic and, in any event, would be required in a subsequent epidemic year.

All in all, gamma globulin leaves much to be desired as an immuno-prophylactic agent against polio and, when the total cost is taken into account, one may wonder if its use on a mass basis is truly justified.

Active immuno-prophylaxis: It hardly needs to be argued that a safe method of producing effective and long lasting active immunity against the three antigenic types of polio virus would constitute the ideal single measure of control. This has been, in fact, a long sought goal. It may be said that early efforts to achieve this goal were

unsuccessful for two reasons; the vaccines were unsafe because the viral antigen was incompletely inactivated, and also they were not antigenically polyvalent. Modern efforts go back only to the recognition of distinct antigenic types of virus which took place in the early 1940's.

Recent progress has been reviewed and a major new step along the road has been announced by Salk.[41] This new step rests on three major contributions by other workers. First, Morgan,[42] in 1948, showed that formalin-inactivated virus could be made to immunize monkeys. This involved multiple inoculations and a crude antigen made from the only then available source, CNS tissue from infected monkeys. Second, Freund[43] demonstrated the remarkable enhancing effect on immune response which results when an antigen is incorporated in a stable water-in-mineral oil emulsion, and third, Enders and co-workers[44] made available a relatively clean and nearly unlimited source of viral antigen when they demonstrated that polio viruses of all three types could be propagated *in vitro* in suitable tissue cultures. Taking advantage of these facts and also personal experience derived from work with influenza vaccines,[45] Salk and co-workers have produced a polyvalent vaccine in which formalin-inactivated polio viruses of tissue culture origin and of all three types have been incorporated in an oily emulsion of Freund type. Preliminary tests have been made in man with this vaccine given intramuscularly and also with aqueous monovalent vaccines given intradermally. While gratifying results were obtained with the Type 2 aqueous vaccine, chief interest centers in the polyvalent emulsion-type vaccine. Although 90 persons have received such vaccine and suffered no immediate ill effects, serologic work has not been completed. It may be said, however, that most of the 16 persons whose sera have been most completely tested manifested a very satisfactory rise in titer of neutralizing antibody to all three virus types.

The foregoing is but a very early progress report on what is an obviously very hopeful lead. Before a vaccine of the type described can be recommended for indiscriminate use, much more work must be done. First and foremost, safety must be established. While laboratory tests demonstrating the complete noninfectivity of the viral antigens seem an adequate safeguard against the inadvertent production of poliomyelitis, the development of undesirable reactivity to nonviral components of the vaccine must be considered. This has special reference to traces of organ-specific antigen derived from the monkey kidney tissue in which the viruses were propagated. While Salk is considering this possibility and early tests for sensitivity to kidney protein have been negative, larger numbers of persons and a considarably longer period of observation are indicated before an answer can be accepted. Second is the actual effectiveness of the immunity produced. While all available experimental evidence suggests that antibody titers of the magnitude observed are associated with solid immunity to challenge infection, epidemiologic evidence of resistance to natural infection must be obtained in an actual field trial. Such a trial should also be helpful in defining the stability of the vaccine and the conditions of handling necessary to the preservation of its potency. Finally, there is the problem which only the passage of time can answer, i. e. the duration of effective immunity. Related to this is the question of the effect on the immune state of subsequent natural contact with polio viruses. As long as such contact is a common event, a possible resulting booster effect may serve to prolong indefinitely the immunity originally induced by the vaccine.

There is still another and, theoretically, possibly superior approach to the problem of a vaccine. This is analogous to the highly successful vaccines now being employed against small pox and yellow fever and would take the form of the development of living but avirulent strains of polio viruses which could be used to induce silent, immunizing infections by simple feeding. Using a Type 2 strain avirulent for monkeys, Koprowski and co-workers[46, 47] have already

infected approximately 80 nonimmune human subjects without untoward results. It must be pointed out that the problem of safety-testing vaccines of this type seems nearly insurmountable since it would require very large numbers of proven nonimmunes (probably children). Also, suitably avirulent strains of Types 1 and 3 remain to be developed. Nonetheless, should the immunity following infection with such strains be comparable to that following natural infection, the ultimate rewards would be incalculable.

In resumé, one can make no recommendation for artificial active immunization as a currently available control measure. There is ample reason to predict, however, that in a matter of but a few years effective vaccines against poliomyelitis will be generally available and will completely replace gamma globulin as an immuno-prophylactic measure.

THE ACQUISITION OF FURTHER KNOWLEDGE

It should have been evident in the discussion so far presented that much which may be pertinent to the control of poliomyelitis remains to be learned. The need for and the possible avenues of further research related to the problem of immuno-prophylaxis have been already adequately indicated. The following discussion will deal only with questions related to virus reservoir and transmission and to factors which predispose to the evolution of paralytic disease.

To give us the proper perspective it seems pertinent to begin with a few general statements. First, much of what we now know about the distribution and transmission of poliomyelitis derives directly from observations made in relation to cases of overt, clinically recognizable infections which, it will be recalled, are believed to constitute fewer than 1 per cent of all infections. Second, efforts to isolate virus from suspect human and environmental sources and to study the presence and distribution of seroimmunity have been relatively few in number because of the necessity, until very recently, of using a very expensive experimental host—the monkey—in nearly all work of both types, usually a minimum of two monkeys per specimen tested. And, third, the recent development by Enders and his group[44] of techniques by which virus isolations and serologic tests can be made in inexpensive test tube cultures of appropriate living tissues has placed a potent new tool for epidemiologic investigation in the hands of a potentially great number of workers, new and old.

The possible applications of this new epidemiologic tool, the test tube culture, are very numerous and it will be possible to mention only a few. In the first place, type-specific etiologic diagnosis may become practicable for clinically apparent infections. This would greatly increase the reliability of our knowledge about the occurrence of actual disease. In the second place, better and more numerous studies can be made of the escape of virus from the human host, both with respect to avenue of escape and the time during which the host sheds virus. Knowledge of this sort is basic to the intelligent management of known infected persons. In the third place, a much more extensive search can be made for the virus in the animate and inanimate environment. Information so acquired might provide direct evidence as to the principal mechanisms involved in virus transmission.

Finally, and perhaps most important of all, attempts can be reasonably undertaken to learn more about the silent immunizing infections which, unknowingly, nearly all of us experience before we reach adulthood. By periodic examination of a nonimmune segment of our population (newborn infants would seem nearly ideal) it should be possible to learn something about when and under what circumstances these silent infections are acquired. Just such a study, it may be added, is now being inaugurated by the present author and his colleagues in Southern Louisiana. Information gained in this and other similar studies should help complete our knowledge as to virus dissemination. Also, when compared with similar information related to overt cases, it should bear directly on the problem of further defining those factors which determine

whether or not, in an individual case, infection will progress to disease.

SUMMARY

The increasing importance of poliomyelitis, especially in the South, stems both from a numerical and relative increase in cases and a trend to occurrence in older age groups in which disease is usually more severe. Because of this, control becomes all the more important.

An effective control program combines several approaches. Present knowledge permits the following recommendations with respect to each of the several approaches:

1. Measures to minimize the occurrence of infection should focus on children under 12, in general, and especially on those who are household or play contacts of known cases of poliomyelitis; and they should stress in particular the limitation of intimate physical contact. Specific measures as the polio season approaches would be:
   a. Avoidance of any new play contacts, especially as at public playgrounds and swimming places, at children's parties, and on visits and trips.
   b. Reasonable isolation of overt cases.
   c. Modified quarantine for household contacts (and possibly close play contacts) of overt cases.
   d. Permit schools to function except in rural areas where buses bring children into close contact.
2. Measures to minimize the consequences of infection would include:
   a. Avoidance of factors predisposing to the development of paralytic disease such as elective tonsillectomy and routine immunizations (children under 1 year excepted), excessive physical activity, chilling, and, in the first days of suspect illness, normal activity and even the stress of prolonged travel by ambulance to the hospital.
   b. Immuno-prophylaxis, now available only in passive form as gamma globulin, which should be employed only for children in communities actually experiencing an epidemic or in households in which an overt case has just occurred. This should be replaced by vaccine when this becomes available.
3. Continuing pursuit of new knowledge with special reference to mechanisms of virus reservoir and transmission and to factors which predispose to paralytic disease, now made potentially more productive by the introduction of the test tube tissue culture as a tool for virus isolation and serology.

REFERENCES

1. Paul, John R.: Observations on the history of poliomyelitis, Bull. Ayer Chemical Lab., 4:21, (May) 1951.

2. Fox, John P.: Present Status of Communicable Diseases in the South, Proceedings of the Annual Meeting, Southern Branch, A.P.H.A., 12-19, 1950.

3. Gilliam, A. G., Hemphill, F. M., and Gerende, J. H.: Average poliomyelitis incidence reported in the counties of the United States, 1932-1946, Public Health Reports, 64:1575, 1949.

4. Dauer, C. C.: Trends in the age distribution of poliomyelitis in the United States, Am. J. Hyg. 48:133, 1948.

5. Greenberg, M., Siegel, M., and Magee, M. C.: Poliomyelitis in New York City, 1949, New York State J. Med., 50:1119, 1950.

6. Ward, R., Melnick, J. L., and Horstman, D. M.: Poliomyelitis virus in fly-contaminated food collected at an epidemic, Science, 101:491, 1945.

7. Ward, R.: Poliomyelitis and Coxsackie viruses from Egyptian flies, Fed. Proc. 11:486, (March) 1952 (An Abstract).

8. Syverton, J. T., et al.: The cockroach as a natural extrahuman source of poliomyelitis virus, Fed. Proc. 11:483, (March) 1952 (An Abstract).

9. Faber, H. K., Dong, L., and Silverberg, R. J.: Search for poliomyelitis virus in house dust and study of effects of drying on viability of virus, J. Inf. Dis., 88:180, 1951.

10. Melnick, J. L.: Poliomyelitis virus in urban sewage in epidemic and in non-epidemic times, Am. J. Hyg., 45:240. 1947.

11. Rhodes, A. J., et al.: Poliomyelitis virus in urban sewage; an examination for its presence over a period of twelve months, Canad. J. Pub. Health, 41:248, 1950.

12. Carlson, H. J., Ridenaur, G. M., and McKahn, C. F.: Effect of activated sludge process of sewage treatment on poliomyelitis virus, Am. J. Pub. Health, 33:1083, 1943.

13. Lensen, S. G., et al: Inactivation of partially purified poliomyelitis virus in water by chlorination. Am. J. Pub. Health, 39:1120, 1949.

14. Casey, A. E.: Observations on an epidemic of poliomyelitis, Science, 95:359, 1942.

15. Howe, H. A., and Bodian, D.: Isolation of poliomyelitis virus from the throats of symptomless children, Am. J. Hyg., 45:219, (March) 1947.

16. Horstmann, D. M., Ward, R., and Melnick, J. L.: The isolation of poliomyelitis virus from human extraneural sources: persistence of virus in stools after acute infection, J. Clin. Invest., 25:278, 1946.

7. Horstmann, D. M.: Poliomyelitis virus in blood of orally infected monkeys and chimpanzees, Proc. Soc. Exp. Biol. & Med., 79:417, 1952.

18. Bodian, David: Pathogenesis of poliomyelitis in

normal and passively immunized primates after virus feeding, Fed. Proc., 11:462, (March) 1952.

19. Gordon, F. B., Schabel, F. M., Jr., Casey, A. E., and Fishbein, W. I.: Laboratory study of epidemiology of poliomyelitis, J. Infect. Dis. 82:294, 1948.

20. Brown, G. C. and Ainslie, J. D.: Relationship between serum antibodies and subclinical infections with poliomyelitis virus, J. Exper. Med. 93:197, 1951.

21. Casey, A. E., Fishbein, W. I., and Bundesen, H. N.: Transmission of poliomyelitis by patient-to-patient contact, J. A. M. A. 129:1141, 1945.

22. Francis, T., Jr., and Brown, G. C.: Studies of the distribution of poliomyelitis virus, in rural schools following an epidemic, J. Inf. Dis. 82:163, 1948.

23. Sabin, A. B. and Stiegman, A. J.: Poliomyelitis virus of low virulence in patients with epidemic "summer grippe or sore throat," Am. J. Hyg., 49:176, 1949.

24. Herndon, C. N.: A twin family study of susceptibility to poliomyelitis, Am. J. Genetics, 3:17, 1951.

25. Horton, R. J. and Rubenstein, A. D.: The age distribution of poliomyelitis in Massachusetts, New England J. Med., 239:169, 1948.

26. Fox, M. J. and Belfus, F. H.: Poliomyelitis in pregnancy, Am. J. Obst. & Gyn., 59:1134, 1950.

27. Ingalls, T. H.: Upper respiratory infection as a factor influencing susceptibility to poliomyelitis, New England J. Med., 245:197, 1951.

28. Cunning, D. S.: Poliomyelitis-tonsillectomy survey-year 1949, Laryngoscope, 60:615, 1950.

29. Anderson, G. W., *et al.*: The risk of poliomyelitis after tonsillectomy, Ann. Otol. Rhin. & Laryng. 59:602, 1950.

30. Galloway, T. C.: Relationship of tonsillectomy to poliomyelitis, J. A. M. A. 151:1180, (April) 1953.

31. Anderson, G. W., and Skaar, Audrey E.: Poliomyelitis occurring after antigen injections, Pediatrics 7:741, 1951.

32. Drake, R. M.: Poliomyelitis and parenteral injections; review of recent literature, Calif. Med. 77:22, 1952.

33. Russell, W. R.: Poliomyelitis: pre-paralytic stage and effect of physical activity on severity of paralysis, Brit. M. J. 2:1023, 1947.

34. Horstmann, D. M.: Acute poliomyelitis; relation of physical activity at time of onset to course of disease, J. A. M. A. 142:236, 1950.

35. Hunley, H. C., Jr.: Transportation of acute poliomyelitic patients, U. S. Armed Forces M. J. 3:1337, 1952.

36. Brahdy, M. B.: Effect of transportation on severity of acute poliomyelitis, J. A. M. A. 146:772, 1951.

37. Bodian, D.: Neutralization of three immunological types of poliomyelitis virus by human gamma globulin, Proc. Soc. Exp. Biol. & Med. 72:259, 1949.

38. Bodian, D.: Experimental studies on passive immunization against poliomyelitis. I. Protection with human gamma globulin against intramuscular inoculation and combined active and passive immunization, Am. J. Hyg., 54:132, 1951.

39. Bodian, D.: Experimental studies on passive immunization against poliomyelitis. II. The prophylactic effect of human gamma globulin on paralytic poliomyelitis in Cynomolgous monkeys after virus feeding. Am. J. Hyg. 56:78, 1952.

40. Hammon, W. McD., Coriell, L. L., and Stokes, J. L., Jr.: Evaluation of Red Cross gamma globulin as a prophylactic agent for polio, J. A. M. A. 150:739, 1952.

41. Salk, J. E.: Studies in human subjects on active immunization against poliomyelitis. I. A preliminary report of experiments in progress, J. A. M. A. 151:1081, 1953.

42. Morgan, I. M.: Immunization of monkeys with formalin-inactivated poliomyelitis viruses. Am. J. Hyg., 48:394, 1948.

43. Freund, J.: The effect of paraffin oil and mycobacteria on antibody formation and sensitization: A review, Am. J. Clin. Path. 21:645, 1951.

44. Enders, J. F.: General preface to studies on the cultivation of poliomyelitis viruses in tissue culture. J. Immun. 69:639, 1952.

45. Salk, J. E.: Use of adjuvants in studies on influenza immunization. 3. Degree of persistence of antibody in human subjects two years after vaccination, J. A. M. A. 151:1169, 1953.

46. Koprowski, H. *et al.*: Immune responses in human volunteers upon oral administration of a rodent-adapted strain of polyiomyelitis virus, Am. J. Hyg. 55:108, 1952.

47. Koprowski, H., Jervis, G. A., Norton, T. W., and Nelsen, D. J.: Further studies on oral administration of living polio virus to human subjects, Proc. Soc. Exp. Biol. & Med. 82:277, 1953.

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THE PLACE OF THE PHYSICIAN IN THE NINE-POINT PROGRAM OF THE PRESIDENT OF THE AMERICAN MEDICAL ASSOCIATION

At the 102d annual meeting of the American Medical Association, Dr. Edward J. McCormick of Toledo, Ohio, president of the American Medical Association, outlined a nine-point program for further improvement in the nation's medical care.

The first four proposals depend for their development upon organizational activities. The first is the problem of distribution of doctors. The second is the need in certain localities for twenty-four hour emergency call systems. The third is the operation by every medical society of a strong and fearless mediation committee to hear patients' complaints. The fourth is the development of physician-hospital committees by state and county medical societies to work toward better relations in local communities between the local medical society and the hospital organizations. These are all matters of which the thoughtful physician would have no criticism. However, while the degree of success in each one of these projects depends upon the amount of time and help given by the membership, the initiation of these several enterprises is dependent primarily upon the governing bodies of the societies.

The last five points are dependent upon the initiative and thoughtful cooperation of the individual physician.

One of these is the desire to develop and expand voluntary health insurance. Furtherance of this type of insurance can be greatly assisted by the enthusiastic cooperation of the physician. This applies to accuracy in reporting claims, to explanation of the workings of these plans to the patient, and to stimulating the formation of such types of protection as will lighten the financial burden of catastrophic illness, and will provide for coverage of older age groups. Voluntary health insurance is one of our best answers to the people who clamor for state medicine. Let us see that its benefits are spoken loudly.

The sixth point in Dr. McCormick's plan is that local societies should encourage each individual member to participate in some form of civic undertaking. The physician should render health leadership in service clubs, fraternal organizations, parent-teacher groups, church associations, and unions. With such diligence in activity, the average citizen would again look to the physician for guidance, rather than listen to the advice of some paid agitator.

In his seventh point, Dr. McCormick reminds us that every doctor must be brought to realize that good public relations for Medicine begins in his or her office—that the way they treat the patients reflects for

good or ill upon the entire profession. Too often, the whole profession suffers when irresponsible members of the profession make unjust charges for services, refuse urgent night calls, or fail to respond to obvious emergencies.

The relation of the individual physician to the Press is of more importance now than ever in our history. The medical society should set the pattern for cooperation with those who constitute the Press. It should encourage the presentation of Medicine's story in its proper light. Sooner or later, almost every physician will have contact with the Press, and it is in his own interests and in that of the Society to follow the pattern outlined.

The ninth point is one in which a plea is made for unity within the profession. Our president is distressed by signs of regression toward petty wrangling, charges and countercharges, and divisive activities by various groups within the profession. He explained that constructive criticism has a universally recognized place within any democratic group, but once that group has taken a majority action on a matter, the dissenters should be willing to accept the will of the majority, and allow all medical enterprises to go forward with singleness of purpose and unity of action, without which success in these troubled times is not possible.

The message from Dr. McCormick's speech is that there is no place for a self satisfied attitude in the public relations of Medicine today.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

ABSTRACTED MINUTES HOUSE OF DELEGATES

May 7-9, 1953

Minutes

Minutes of the *1952* meeting of *House of Delegates* approved as recorded.

Minutes of meetings of *Executive Committee since 1952 meeting* of House of Delegates approved as recorded.

Special Order

Appointment of Committees: *Credentials*: — Dr. Wm. H. Roeling, New Orleans, Chairman; Drs. C. E. Boyd, Shreveport and Dr. Guy Riche, Jr., Baton Rouge. *President's Report*:—Dr. J. K. Stone, New Orleans, Chairman; Dr. C. M. Horton, Franklin, and Dr. E. H. Lawson, New Orleans. *Resolutions*:—Dr. M. C. Wiginton, Hammond, Chairman; Dr. J. E. Clayton, Norco and Dr. R. E. Gillaspie, New Orleans.

Invitation extended by Dr. George W. Davis, Jr., Superintendent of the *Southeast Louisiana State Hospital in Mandeville*, to members of the State Society to visit the hospital.

Approval of *telegrams* to be sent to *Dr. P. T. Talbot, Secretary-Treasurer Emeritus* and *Dr. Roy B. Harrison*, in re inability to be present.

Roll of *members who died since 1952 meeting* read.

Greetings from Texas by Dr. C. L. Heare, Port Arthur, Texas, *Fraternal Delegate.*

Greetings from American Medical Association, Dr. George F. Lull, *Secretary-Manager* and Mr. Thomas A. Hendricks, *Secretary of the AMA Council on Medical Service.*

Communications

Blue Shield Commission and *Secretary of State* in re *Louisiana Physicians Service, Inc.*—Received and filed.

Fox and Pier, Inc. in re *Group Plan of Disability Insurance* for members of the AMA—Referred to Executive Committee.

Action Taken

Approval of suggestion that a *plaque and resolutions of thanks* be given *Dr. Roy B. Harrison* in appreciation of service rendered through the *State Board of Medical Examiners*; also that *thanks* be expressed to *Drs. Horton, Leckert and Meuville* for their service on this Board and that a *plaque* containing their names be presented to the office of the State Board of Medical Examiners.

Approval of Group Professional Health and Accident Insurance offered by Continental Casualty Company and approved by Special Committee of the State Society.

Approval of appointment of special committees from parish societies NOW to work with the Legislative Committee to define *chiropractic* law;

enlist Chambers of Commerce and Better Business Bureau and other people of Louisiana to assist as they see fit; study ways and means of enforcing the present laws in the state.

Disapproval of article appearing in the New Orleans Times-Picayune entitled *NOSE MOST COMMON SPOT FOR COSMETIC SURGERY* and condemning responsible parties; American Medical Association and American Board of Plastic Surgery to be notified of action.

Resolution in re internships approved: WHEREAS, The Report of the Advisory Committee on Internships to the Council on Medical Education and Hospitals of the American Medical Association dated November 15, 1952, and the "Essentials of an Approved Internship" prepared by the Council on Medical Education and Hospitals of the American Medical Association dated November 15, 1952, and revised December 4, 1952, stipulate that approved internships can be conducted only in hospitals in which the educational benefits are considered of paramount importance, and the service benefits to the hospital are secondary; and WHEREAS the Council on Medical Education and Hospitals in its concept is trying to make the internship a fifth year of medical education instead of a year or more of medical practice under supervision; and WHEREAS, only hospitals having a capacity of at least 150 beds, exclusive of bassinets, and a minimum of 5,000 annual admissions would be accepted for approval; and WHEREAS, the establishment and enforcement of these regulations constitute regimentation of the medical profession, and is an encroachment upon the individual rights and privileges of practicing physicians, be it RESOLVED, that the Louisiana State Medical Society instruct its delegates to the American Medical Association to express, on the floor of the House of Delegates at the June 1953 meeting of the American Medical Association, this Society's objection to these essentials, and recommend that the previous action of the House of Delegates of the American Medical Association with regard to the "Essentials of an Approved Internship" be revoked; and be it FURTHER RESOLVED, that copies of these resolutions be sent to each member of the House of Delegates of the American Medical Association, the president and secretary of the American Medical Association, the chairman and members of the Advisory Committee on Internships to the Council on Medical Education and Hospitals of the AMA, to the chairman and members of the Council on Medical Education and Hospitals of the AMA, and to the president of each state medical society throughout the country."

Approval of letter prepared for submission to the president of the AMA by the president of the State Society concerning *internship regulations.*

Disapproval of requirement that a doctor *belong to any group* in order to render service in any capacity to the *State Welfare Department.*

Matters Discussed—No Action Taken

Resolution from Shreveport Society in re *chiropractic law.* (No specific action on resolution; motion approved in re appointment of committees from parish societies).

Chiropractic advertising in Baton Rouge.

Resolution proposed by Erie County Medical Society, of New York, in re *doctor draft.*

Discussion of *Keogh Reed Bill* in re *social security* for physicians.

Suggestion that *Annual Meetings* be held on *Gulf Coast.*

Amendments

Section 1 of Chapter II of By-Laws (placing no limit on time of selection of place and dates for annual sessions) to read: *Annual Sessions*—The Society shall hold an annual session at such time and place as has been fixed by the House of Delegates or the Executive Committee. At this annual session shall be held general, installation and scientific meetings and the annual meeting of the House of Delegates.

Chapter IX of By-Laws to include Committee on Committees as a Standing Committee.

Section 5 of Chapter IX of By-Laws (in re personnel of Committee on Maternal Welfare) to read: *Committee on Maternal Welfare*—The President shall appoint the chairman of the Committee on Maternal Welfare and the chairman shall formulate his own committee and submit names to the President for consideration. Thirteen members shall constitute the Committee; at least five of whom reside in the city or locality in which the chairman resides and these five given power to act on important matters if the other members are unable to attend meetings of the Committee. The Committee shall consider all matters pertaining to maternal and child welfare which concern the public, members of this Society and the state health department. They shall cooperate with various agencies concerned with this work and determine policies for the benefit of the public and of the medical profession.

Reports without Recommendations

Following reports accepted as presented: Secretary-Treasurer; Chairman of Council; Councilors of First, Second, Third, Fourth, Fifth, Sixth, Seventh, Eighth Congressional Districts; Committees: Advisory to Selective Service, Aid to Indigent Members, Arrangements - 1953 Annual Meeting, Blood Banks, Budget and Finance, Child Health, Committees, Congressional Matters, Diabetes, Domicile, Grievances, Hospitals, Industrial Health, Journal, Lectures for Colored Physicians, Medical Defense, Medical Education, Medical Testimony, Neuropsychiatric Service at Charity Hospitals, Professional Health and Accident Insurance, Public Health of the State of Louisiana, Public Policy and Legislation, Scientific Work, State Hospital Policies, Woman's Auxiliary; Council on Medical Service and

Public Relations; Louisiana Physicians Service, Inc.

Reports with Recommendations

President: Referred to Committee on President's Report and report of this Committee, with following suggestions concerning recommendations, approved: 1. All Special Committees be continued: The committee suggests that this matter be taken under advisement by the Committee on Committees, which committee should be changed from a special to a standing committee. 2. The time and place of meeting of the State Society be scheduled three years in advance: The committee is heartily in accord with this proposal and suggests that the House of Delegates change the By-Laws so that it may be put into effect as soon as possible. 3. The name of the Grievance Committee be changed to comply with recommendations of the American Medical Association: The committee feels that this recommendation is very desirable because of the implications that the word "grievance" may give. It is suggested that the name be changed to Committee on Mediation as proposed by the AMA. 4. No corporation affecting the moral or financial responsibility of our members be organized unless it be controlled, as is the State Journal, by the Society: It is recommended that the word "moral" be deleted, as it could possibly be a stumbling block at some future time.

Committee on American Medical Education Foundation:—1. Suggestions in this report be referred to the new committee to be appointed for 1953-54—Approved.

Committee on Cancer:1. Two thousand dollars to be earmarked for development of Louisiana State Medical Society Cancer Commission—Approved.

Committee on Chronic Diseases:—1. Some program for nursing of the chronically ill be attempted —Referred to the Committee on Liaison with the Louisiana State Nurses' Association.

Committee on History of the Louisiana State Medical Society:—1. Approval of notarial act creating a Trust Fund for the completion of the History of Medicine in Louisiana and the History of the Louisiana State Medical Society—Approved. 2. Change name of Committee on History of the Louisiana State Medical Society to the Committee on the History of Medicine in Louisiana, consisting of the members of the Society mentioned in the notarial act; the editorial committee appointed by this committee will appear in its detailed form in future publications under authority of the above mentioned committee—Approved. 3. The Society continue to record its history—Approved. Motion was also made and carried that a letter of thanks be sent Dr. Matas for his interest in this work.

Committee on Liaison with Louisiana State Nurses' Association:—1. Continuation of Committee with suggestion that sub-committees be appointed throughout the state so that the individual problems of the various communities may be taken care of more efficiency—Approved.

Committee on Maternal Welfare:—1. Section 5 of Chapter IX of the By-Laws be amended to allow for appointment of the Committee on Maternal Welfare, as follows: The President designate the chairman and the chairman formulate his own committee and submit names to the President for consideration. Thirteen members to constitute the Committee; at least five of whom reside in the city or locality in which the chairman resides and these five given power to act on important matters if the other members are unable to attend meetings of the Committee—Approved.

Committee on Medical Indigency:—1. A meeting with Governor Kennon, his hospital administration, and a selected group of hospital board members, both lay and medical, to solve the great problem of who is a medical indigent—Referred to the Executive Committee.

Committee on National Emergency Medical Service:—1. Chairman of the Committee on National Emergency Medical Service be appointed from the Baton Rouge area so that he can work with the State Director of Civil Defense whose office is in Baton Rouge—Approved. 2. The Louisiana State Medical Society ask that the parish medical societies cooperate in the Civil Defense Program—Approved. 3. The State Society recommend to local committees that the standard pressure-type dressings be used in burns in Civil Defense emergencies —Approved. 4. Type O blood be used for transfusions in Civil Defense emergencies—Approved.

Committee on Resolutions:—1. Copy of these resolutions be sent to each person and organization mentioned and also published in The Journal of the Louisiana State Medical Society—Approved.

Committee on Rural and Urban Health:—Following recommendations referred to the Executive Committee, with authority to take necessary action: 1. Louisiana State Medical Society be urged to take a more active interest in the Louisiana Health Council. 2. Small amount of money allocated to this Committee for expenses. 3. Committee for 1953-54 be composed of members who are directly interested in rural health.

Report of Louisiana State Board of Medical Examiners

Dr. Edwin H. Lawson and Dr. Morgan Lyons, with Dr. Sam Hobson and Dr. Edwin L. Zander, as alternates, to be recommended to the governor for appointment to the Board of Medical Examiners in re Drs. Harrison and Horton. Committee to be appointed from the House of Delegates, to draw up resolutions of thanks and appreciation for service rendered the Board by Dr. Harrison and that a plaque be presented to him in recognition of this service. Also that thanks be expressed to Drs. Horton, Leckert and Menville for their service on this Board and that a plaque containing

their names be presented to the office of the State Board of Medical Examiners.

Election of Officers, Delegate and Alternate to AMA and Committees

President-elect—Dr. Walter Moss, Lake Charles.

First Vice-President—Dr. Cuthbert J. Brown, New Orleans.

Second Vice-President—Dr. Kernan Irwin, Baton Rouge.

Third Vice-President—Dr. M. M. Hattaway, New Orleans.

Chairman of House of Delegates—Dr. W. Robyn Hardy, New Orleans.

Vice-Chairman of House of Delegates—Dr. Ralph H. Riggs, Shreveport.

Councilor, Third District—Dr. Guy R. Jones, Lockport.

Councilor, Sixth District—Dr. Arthur D. Long, Baton Rouge.

Councilor, Seventh District—Dr. J. W. Faulk, Crowley.

Councilor, Eighth District—Dr. H. H. Hardy, Alexandria.

Delegate to AMA (1954 and 1955)—Dr. J. Q. Graves, Monroe.

Alternate to Delegate to AMA (1954 and 1955)—Dr. A. A. Herold, Shreveport.

Committee on Journal—Dr. E. L. Leckert and Dr. Edwin H. Lawson; both of New Orleans.

Committee on Medical Defense—Dr. W. A. Ellender, Houma.

Committee on Public Policy and Legislation—Dr. Henry W. Jolly, Jr., Baton Rouge, Chairman; Dr. E. L. Zander, New Orleans; Dr. J. E. Clayton, Norco; Dr. Leo Kerne, Thibodaux; Dr. Clarence E. Boyd, Shreveport; Dr. Haydn Cutler, Monroe; Dr. W. A. K. Seale, Sulphur; Dr. M. B. Pearce, Alexandria; Dr. P. H. Jones, New Orleans, President of LSMS and Dr. C. Grenes Cole, New Orleans, Secretary-Treasurer of LSMS, to serve as ex-officio members.

Committee on Scientific Work—Dr. W. H. Gillentine, New Orleans; Dr. M. D. Hargrove, Shreveport; Dr. C. Grenes Cole, Secretary-Treasurer of LSMS to serve as chairman.

1954 Meeting

Invitation to hold the 1954 meeting in Lake Charles was referred to the Executive Committee.

REPORT OF DELEGATES TO AMERICAN MEDICAL ASSOCIATION

June, 1953

President and Executive Committee
Louisiana State Medical Society

Gentlemen:

The ROUNDUP STORY ON THE HOUSE OF DELEGATES OF THE 102nd ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION is so complete that your delegates are submitting it below as their report.

ROUNDUP STORY

The House of Delegates of the American Medical Association, in session at the Waldorf-Astoria Hotel during the 102nd Annual Meeting of the A.M.A. in New York City, took important policy actions on veterans' medical care, medical ethics, osteopathy, intern training and a wide variety of subjects ranging from medical education to public relations.

The House also named Dr. Walter B. Martin of Norfolk, Virginia, as president-elect of the American Medical Association for the coming year. Dr. Martin will become president at the June, 1954 meeting in San Francisco, succeeding Dr. Edward J. McCormick of Toledo, Ohio, who took office at a special inaugural session of the House of Delegates in the Hotel Commodore during the New York meeting.

The New York meeting was the largest ever held in the history of the American Medical Association, with the final figures on total attendance expected to reach or surpass 40,000, including nearly 18,000 physicians.

Giving unanimous approval to a recommendation from its Reference Committee on Insurance and Medical Service, submitted as a substitute for eight different resolutions concerning the treatment of non-service-connected disabilities by the Veterans Administration, the House adopted the policy that such treatment should be discontinued except in cases involving tuberculosis or psychiatric or neurological disorders.

In taking this action, the House reaffirmed and adopted the following recommendation originally presented at the Denver Meeting last December by the Special Committee on Federal Medical Services:

"Your Committee recommends with respect to the provision of medical care and hospitalization benefits for veterans in Veterans Administration and other federal hospitals that new legislation be enacted limiting such care to the following two categories:

"(a) Veterans with peacetime or wartime service whose disabilities or diseases are service-incurred or aggravated, and

"(b) Within the limits of existing facilities to veterans with wartime service suffering from tuberculosis or psychiatric or neurological disorders of non-service connected origin, who are unable to defray the expenses of necessary hospitalization.

"Your Committee recommends that the provision of medical care and hospitalization in Veterans Administration hospitals for the remaining groups of veterans with non-service connected disabilities be discontinued and that the responsibility for the care of such veterans revert to the individual and the community, where it rightfully belongs."

The reference committee report adopted by the House expressed complete accord with the present program of hospital and medical care for veterans

with service-connected disabilities, and also included this statement:

"It is the belief of your committee that the medical profession must concern itself, not with the numbers of 'Chiselers' in Veterans Administration hospitals nor with the efficacy of the Veterans Administration in the administration of enabling legislation, but rather with the broad question of whether such legislation is sound, whether the federal government should continue to engage in a gigantic medical care program in competition with private medical institutions and whether the ever-increasing cost of such a program is a proper burden to impose on the tax-payers of the country. A consideration of this problem must of course be predicated upon a concern for the health of the entire population and not just a particular segment."

Eleven resolutions dealing with publicity regarding unethical conduct of physicians were brought before the House as a result of recent newspaper and magazine articles reporting statements attributed to an official spokesman of an allied medical organization. The House adopted a committee report which recommended no action on the eleven resolutions but which reaffirmed the supremacy of the A.M.A. code of ethics and urged that the Judicial Council study suggested revisions concerning methods of billing.

"The Principles of Medical Ethics as formulated, interpreted and applied by the American Medical Association must be considered the only fundamental and controlling application of ethics for the entire profession," the reference committee report said. "Any statement relating to ethical matters by other organizations within the general profession of medicine advances views of only a particular group and is without official sanction of the entire profession as represented by the American Medical Association."

Condemning generalized statements regarding the ethics of physicians, the report went on to say:

"Your reference committee believes that the harm done to the public and to the profession by the current articles which lower the confidence patients have in their doctors cannot be objectively evaluated. This highlights the fact that, when individuals or groups without official status in the American Medical Association utter or publish ill-considered statements, the result too often is that the confidence of the public in the medical profession is placed in jeopardy.

"The reference committee believes that the members of the House of Delegates have demonstrated their devotion over the years to the principles of American democracy. This devotion includes the right of free speech. With this, the Committee agrees unqualifiedly.

"Broad generalizations, ill-advised and poorly prepared statements that often fail to convey the intended meaning are most unfortunate and are to be deplored. Destructive critical comments serve no useful purpose. Your committee has the utmost confidence that the great majority of our members are entirely capable of avoiding these pitfalls without additional advice from this committee."

The report also urged that the American Medical Association continue to inform its members and the public of its stand on matters pertaining to abuses and evils in the practice of medicine.

Most controversial issue brought before the House at the New York meeting proved to be the question of immediate or deferred action on the report of the Committee for the Study of Relations Between Osteopathy and Medicine. The House, after two hours of vigorous, spirited debate, adopted the majority report of the Reference Committee on Miscellaneous Business, thereby postponing action until the June 1954, meeting and allowing further study by the delegates and the state associations.

The recommendations of the Committee for the Study of Relations Between Osteopathy and Medicine were as follows:

"1. That the House of Delegates declare that so little of the original concept of osteopathy remains that it does not classify medicine as currently taught in schools of osteopathy as the teaching of 'Cultist' healing.

"2. That the House of Delegates state that pursuant to the objectives and responsibilities of the American Medical Association which are to improve the health and medical care of the American people, it is the policy of the Association to encourage improvement in the undergraduate and postgraduate education of doctors of osteopathy.

"3. That the House of Delegates declare that the relationship of doctors of medicine to doctors of osteopathy is a matter for determination by the state medical associations of the several states and that the state associations be requested to accept this responsibility.

"4. That the Committee for the Study of Relations Between Osteopathy and Medicine or a similar committee be established as a continuing body."

A minority report of the reference committee urged approval and adoption of those recommendations at the New York meeting. The majority report, which ultimately won out, included the following recommendations by the Board of Trustees:

"Because of the length of the report and the controversial nature of the subject, the Board feels that the House should have adequate time for its study and that the state associations should have opportunity to express their opinions.

"Therefore, it is recommended that the Committee be continued but that action on the report be deferred until the June, 1954, session. It is suggested that at that time the House be prepared to answer the following questions:

"1. Should modern osteopathy be classified as 'Cultist' healing?

"2. Since the objectives of the American Medical Association include improvement in undergraduate and postgraduate education, should doctors of medicine teach in osteopathic schools?

"3. Should the relationship of doctors of medicine to doctors of osteopathy be a matter for determination by the several state associations?"

Five resolutions came before the House with regard to the Essentials of an Approved Internship, which were adopted at the December, 1952, meeting. The Reference Committee on Medical Education and Hospitals recommended a substitute resolution which was adopted by the House after considerable discussion. The action abolishes the rule whereby approval may be withdrawn from an internship program which for two consecutive years fails to obtain at least two-thirds of its slated complement of interns. The resolution also calls for further study of the Essentials by a committee appointed by the Speaker of the House, at least half of whom are doctors in private practice not connected with medical schools or affiliated hospitals.

Also adopted was the supplementary Report of the Board of Trustees on the Problem of Accrediting Nursing Schools. The Board of Trustees having conferred with the Commission for the Improvement of the Care of the Patient, the Director of the Accreditation Program of the National League for Nursing Education, Inc., and a representative of the American Hospital Association, agreed to recommend an eight point program. Your Reference Committee would like to cite particularly Point 6 dealing with the recommendation to reduce the present three year program for diploma training courses to two years; and Point 7 recommending selected cases for advancement from trained practical nurse status to hospital diploma courses, and from hospital diploma status to collegiate degree courses without loss of time; and Point 8 in which the committee recommends that the trained practical nurse program be a joint effort of doctors, hospital administrators and nurses.

Among the many other actions taken, the House reaffirmed its endorsement of the principles embodied in Senate Joint Resolution No. 1 concerning international treaties or agreements which interfere with domestic laws or rights, and it approved a resolution deploring a derogatory article about the American Medical Association which appeared recently in the Home Life Magazine. The latter resolution was referred to the Board of Trustees for implementation.

Highlights of the opening day session of the House were addresses by Dr. Louis H. Bauer, who delivered his term-end report as retiring president; Dr. Edward J. McCormick, who spoke on that day as president-elect, and Mrs. Oveta Culp Hobby, United States Secretary of Health, Education and Welfare, and selection of the winner of the 1953 Distinguished Service Award.

Dr. Bauer, referring to charges of unethical practices among some doctors, declared that all members of the medical profession "should not be tarred with the same stick."

Dr. McCormick outlined a nine-point program for further improvement in the nation's medical care and expressed the hope that "their further development will solve many of medicine's problems and eliminate much of the criticism to which we are subjected."

Mrs. Hobby told the delegates that the present administration in Washington is looking with confidence to the nation's physicians for leadership in meeting the challenge of modern medical care problems.

The 1953 distinguished Service Award was voted to Dr. Alfred Blalock of Baltimore for his outstanding work in vascular surgery and his part in the development of the so-called "blue-baby" operation. Dr. Blalock, chief surgeon at Johns Hopkins Hospital and professor of surgery at Johns Hopkins University School of Medicine, received the award during ceremonies preceding the presidential inauguration Thursday night, June 2.

In addition to the selection of Dr. Martin as president-elect, the House also elected Dr. Carl H. Gellenthien of Valmora, New Mexico, to the office of vice-president. He succeeds Dr. Leo F. Schiff of Plattsburgh, New York.

Re-elected to office were:

Dr. George F. Lull, Chicago, secretary and general manager; Dr. J. J. Moore, Chicago, treasurer; Dr. James R. Reuling, Bayside, New York, speaker of the House of Delegates; Dr. E. Vincent Askey, Los Angeles, vice speaker of the House; Dr. Edwin S. Hamilton, Kankakee, Illinois, and Dr. Cunnar Gundersen, LaCrosse, Wisconsin, as member of the Board of Trustees.

The House elected Dr. Julian P. Price of Florence, South Carolina, to fill Dr. Martin's unexpired term on the Board of Trustees.

LOUISIANA STATE MEDICAL SOCIETY NEWS

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Morehouse	Third Thursday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

SEVENTEENTH ANNUAL MEETING OF THE NEW ORLEANS GRADUATE MEDICAL ASSEMBLY

Will be held March 8-11, 1954, headquarters at the Municipal Auditorium.

The following officers and members of the Executive Committee have been elected for this year:

Dr. Andrew V. Friedrichs, President; Dr. Woodard D. Beacham, President-elect; Dr. Howard Mahorner, First Vice-President; Dr. Ambrose H. Storck, Second Vice-President; Dr. Theodore L. L. Soniat, Third Vice-President; Dr. Maurice E. St. Martin, Secretary; Dr. Jules Myron Davidson, Treasurer; Dr. Donavan C. Browne, Director of Program; Dr. Homer J. Dupuy; Assistant Director of Program; Dr. Eugene H. Countiss, Assistant Director of Program.

Executive Committee: Dr. Cuthbert J. Brown; Dr. W. P. Gardiner; Dr. Charles B. Odom; Dr. H. Ashton Thomas; Dr. Charles R. Walters.

PAN-PACIFIC SURGICAL ASSOCIATION

Sixth Congress
Honolulu, Hawaii
October 7-18, 1954

Doctors are urged to make arrangements as soon as possible to attend the Sixth Pan-Pacific Surgical Congress to be held in Honolulu, Hawaii, October 7-18, 1954.

An outstanding program, including sessions in all divisions of surgery and related fields, promises to be of interest to all doctors.

The Association office has been appointed as travel agent for those attending the Congress and it is important that all hotel and travel reservations be made through the Honolulu headquarters of the Pan-Pacific Surgical Association.

For further information, please write to F. J. Pinkerton, M. D., Director General, PAN-PACIFIC SURGICAL ASSOCIATION, Suite 7, Young Hotel Building, Honolulu, Hawaii.

NEWS ITEM

At the recent meeting of the Louisiana-Mississippi Otolaryngological and Ophthalmological Society held in Biloxi, Mississippi, Dr. Ralph H. Riggs, of Shreveport, was elected president of the organization and Dr. W. Griffin Jones, of Shreveport, was elected councilor.

AMA PUBLICATIONS

If you desire, you may substitute some other A.M.A. publication for the Journal of the American Medical Association. They are American Journal of Diseases of Children, Archives of Neurology and Psychiatry, Archives of Dermatology and Syphilology, Archives of Surgery, Archives of Ophthalmology, Archives of Otolaryngology, Archives of Pathology, Archives of Internal Medicine, Archives of Industrial Hygiene and Occupational Medicine. If changes are to be specified, let State Headquarters have the information at the time your Parish reports your dues.

12 PER CENT OF DOCTOR'S TIME GOES TO CHARITY PATIENTS

The average U. S. physician gives seven hours a week—12 per cent of his working hours—to charity patients. The dollar value of the charity work he does in a single year is more than $3,000.

These figures are revealed in the April issue of Medical Economics, national business magazine for doctors. The magazine is publishing the results of a nationwide survey is made recently among its 134,000 M. D.-readers.

NEW INFLUENZA VACCINE OFFERS PROMISE OF BETTER IMMUNIZATION

A new type of influenza vaccine that will at least double the period of immunity and may make it possible to offer protection against more strains of influenza virus was reported in the April 4 Journal of the American Medical Association.

Preliminary studies have shown that the vaccine, emulsified in light mineral oil, gives immunity for at least two years, compared to the one year immunity afforded by presently used vaccines which are prepared in a water base, according to Dr. Jonas E. Salk, Pittsburgh. Dr. Salk is associated with the virus research laboratory, department of bacteriology, University of Pittsburgh School of Medicine.

"It appears that emulsification with light mineral oil may provide, in part at least, the means

for resolving the problems of prolonging vaccine effectiveness and increasing the immunologic coverage to include a sufficient number of strains to cover the entire spectrum for each virus type," Dr. Salk wrote.

PROMISING TREATMENT OF AMEBIC DYSENTERY REPORTED

Promising results in the treatment of amebic dysentery were reported in two articles in the March 28 Journal of the American Medical Association.

One study, involving 538 patients in a Korean military hospital, disclosed that acute amebic dysentery responded best to therapy consisting of terramycin given alone or in combination with such standard amebacides as emetine, carbarsone, chiniofon, chloroquine, or bismuth glycolylarsanilate and chloroquine. This report also said that the disease gave excellent initial response and low relapse rate to treatment with the combination of aureomycin and chloroquine diphosphate.

The second article was based on a study of 264 persons in Venezuela suffering from various forms of amebic dysentery. Best results in this study were obtained by use of the combination of bismuth is a drug which has proved beneficial in the treatment of malaria.

In the Korean study, patients were supervised for at least six weeks. Various forms of treatment were instituted, including the administration of known amebacides and antibiotics, alone and in combinations.

Combinations of standard amebacides proved to be much more effective than use of a single amebacide, the article pointed out. Terramycin proved to be the most effective of the antibiotics, and, given in combination with standard amebacides, gave the best results.

DECLINE OF TYPHOID

A generation ago, typhoid was one of the most prevalent infectious diseases in this country. Epidemics appeared annually, and the mortality was high. Today the disease has almost disappeared from large cities and its incidence in rural areas is decreasing rapidly. This reduction in incidence, which occurred before the antibiotic and chemotherapeutic era, has not been due to a reduction in the virulence of the organism or to the development of a specific therapy for the disease. It represents a triumph of epidemiological control. Epidemics caused by contamination of community water or milk supplies have been controlled by proper sewage disposal, routine boiling or chlorination of drinking water, and pasteurization of milk. Epidemics due to carriers, now the chief source of infection, are being controlled by detection and removal of carriers from food-handling jobs and elimination of the carrier state when this is possible.

POLIO PROTECTION AFFORDED BY GAMMA GLOBULIN, REPORT SAYS

Evaluation of the use of gamma globulin for immunization against poliomyelitis has disclosed that passive and temporary immunity to the disease may be obtained through its use, it was reported in the April 11 Journal of the American Medical Association.

Analysis of the use of gamma globulin on approximately 55,000 children in Texas, Iowa and Nebraska during the 1951-1952 epidemic has shown that it gives "highly significant protection against paralytic poliomyelitis," according to Dr. William McD. Hammon, Pittsburgh; Lewis L. Coriell, Camden, N. J.; Paul F. Wehrle, Pittsburgh, and Joseph Stokes, Jr., Philadelphia. Gamma globulin, a blood fraction, is now employed to prevent or modify measles and infectious hepatitis, a liver disease.

The children involved in the tests ranged in age from one to 10 years. Dosage of gamma globulin administered was based on body weight. Half of the children were given injections containing the blood fraction, while the other half received injections of an inert gelatin solution. The doctors did not know until the study was completed which preparation was administered to each child. The children were studied for 14 weeks after being given the injections.

A total of 104 cases of paralytic polio occurred in the group of children studied; 31 cases occurred in the group which received gamma globulin, and 73 in the group which received the gelatin solution, the doctors reported.

"During the first week, the protection against paralytic disease was not significant, 12 or 42.9 per cent of 28 cases occurring in the gamma globulin group," they stated.

WOMAN'S AUXILIARY TO THE LOUISIANA STATE MEDICAL SOCIETY

Woman's Auxiliary to the Louisiana State Medical Society held its annual meeting in New Orleans, May 7-9, Mrs. Thomas E. Strain, Shreveport, presiding. Speakers for the first session of the meeting were the Rev. William J. Harty, S. J., pastor of Holy Name of Jesus Church. Mrs. Edwin R. Guidry, president of Orleans Parish Auxiliary welcomed the visitors. Greetings were extended by officials of the national, state and Orleans Parish Medical societies, including Dr. William E. Barker, Plaquemine, LSMS president; Dr. Philip H. Jones, New Orleans, LSMS president-elect; Dr. Sam Hobson, president of Orleans Parish Medical Society; Dr. George F. Lull, Chicago, AMA representative; Dr. Cuthbert J. Brown, chairman of LSMS convention, and Dr. C. Grenes Cole, New Orleans, LSMS, secretary. Other speakers were: Dr. Roy B. Harrison, Dr. Marion D. Hargrove and

Dr. Clarence B. Erickson, members of the auxiliary's advisory board; Mrs. P. A. Donaldson and Mrs. Arthur A. Herold.

Mrs. Edwin A. Socola, New Orleans, took office as president at the second session. Speakers for the program included Mrs. Ralph Eusden, president of Women's Auxiliary of the American Medical Association, and Mrs. R. F. Stover, president of the Women's Auxiliary of the Southern Medical Association.

A Louisiana Purchase pageant and tea was held Friday afternoon at the Orleans Club. The pageant was written and produced by Mrs. George D. Feldner, New Orleans. Over 150 doctors' wives, doctors and their families participated. Mrs. Daniel J. Murphy was co-chairman for the pageant. Mrs. Joseph S. D'Antoni, was in charge of the tea. Mrs. Max M. Green, was tea-girl chairman.

Saturday's activities began with an instruction class conducted by Mrs. John A. Dunn for the newly elected officers and committee chairman. A luncheon honoring Mrs. Socola and the distinguished speakers was held at the New Orleans Country Club. Mrs. H. Theodore Simon was in charge of arrangements, Mrs. Eugene H. Countiss, Toastmistress.

Officers of the Women's Auxiliary to the Louisiana State Medical Society for 1953-54 are as follows:

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BOOK REVIEWS

Surgery and the Endocrine System; by James D. Hardy, M. D. Philadelphia, W. B. Saunders, 1952. Pp. 153, illus. Price $5.00.

In approximately 150 pages Dr. Hardy has given an up-to-date résumé of recent advances in endocrine physiology. He further explains how these advances are applicable to the surgical patient. There are some interesting questions posed as a result of new studies. For instance, is fever a component of the alarm response? What is the relationship between thyroid activity and adrenocortical activity? Can the excretion of urinary steroids be correlated with the clinical course of the patient?

Throughout there are tables which usually summarize pertinent points in the text. There are separate chapters on thyroid, parathyroid, pancreas, adrenal glands, pituitary, thymus, and gonads.

This little monograph is an excellent summary of recent endocrinological research and its application to the surgical patient.

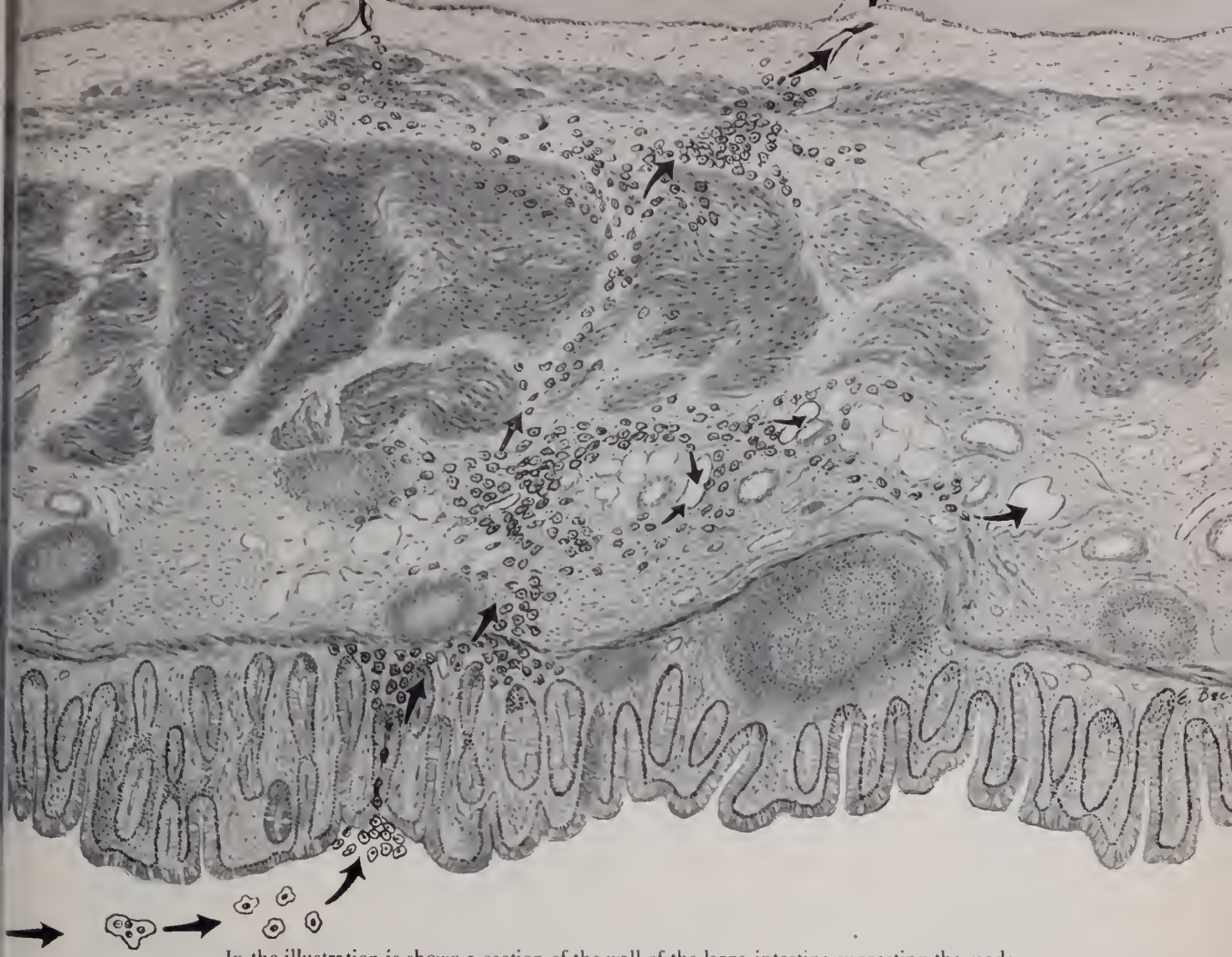
PAUL TRAUTMAN, M. D.

PUBLICATIONS RECEIVED

Doubleday & Co., Inc.: Garden City, N. Y.: Biography of an Idea; The Story of Mutual Fire and Casualty Insurance, by John Bainbridge.

Grune & Stratton, Inc., N. Y.: Psychology of Physical Illness, edited by Leopold Bellak, M. D.

Health Education Council, N. Y.: The Epidemiology of Health, by Iago Galdston, M. D.; Paul B. Hoeber, Inc., N. Y.: Therapeutics in Internal Medicine, by Eighty-Four Authorities, edited by Franklin A. Kyser, M. D. (2nd Edit.).



In the illustration is shown a section of the wall of the large intestine suggesting the mode of invasion of *Endamoeba histolytica* into the various levels; the mesenteric venules lead to the liver and escape of some of the parasites may cause an amebic abscess of the liver.

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*Weingarten, M.: Proctology Symposium: Amebiasis: Medical Aspects, Mod. Med. *20*:121 (May 15) 1952.

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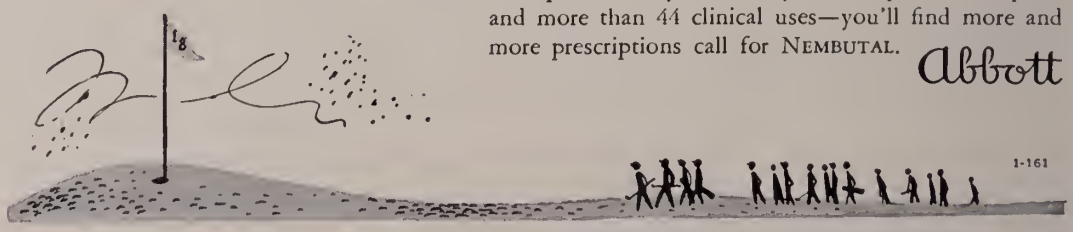

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*Glass, S. J., and Rosenblum, G.: J. Clin. Endocrinol. 3:95 (Feb.) 1943.

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Deucher, F.: Schweiz. med. Wchnschr. *82*:1 (Jan. 5) 1952.

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Farley, W. J., Konieczny, L.: J. Pediat. *42*:177 (Feb.) 1953.

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Reiss, E., et al.: A. M. A. Arch. Surg. *64*:5 (Jan.) 1952.

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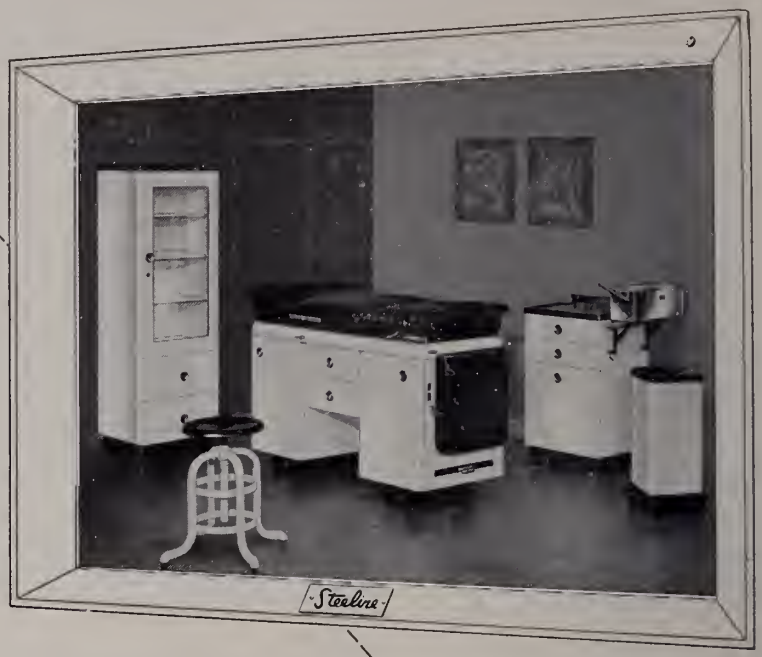

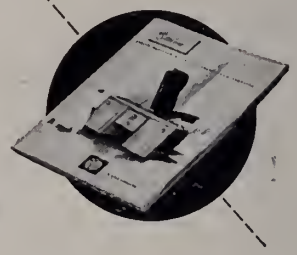

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According to Sandy, "Comes bird season and that dog won't stir if I take down my rifle. *Same if it's deer season and I go for my* shotgun—*he won't move, but he's scratching at the door if I so much as look at my rifle!"*

One day, Sandy decided to fool him. He took down *both* his shotgun and his rifle—and swish, Boscum was on his way! So Sandy put the guns back and took out his fishing rod. He went outside and there was Boscum—digging like crazy for worms!

From where I sit, a dog that can outguess humans is as rare as a human that can outguess other humans. For instance, I like a glass of beer with lunch but I wouldn't pour you one without first asking. I want to practice my profession the way I think best, but I won't tell you how to do your job. Respecting the other's rights keeps freedom from "going to the dogs."

Joe Marsh

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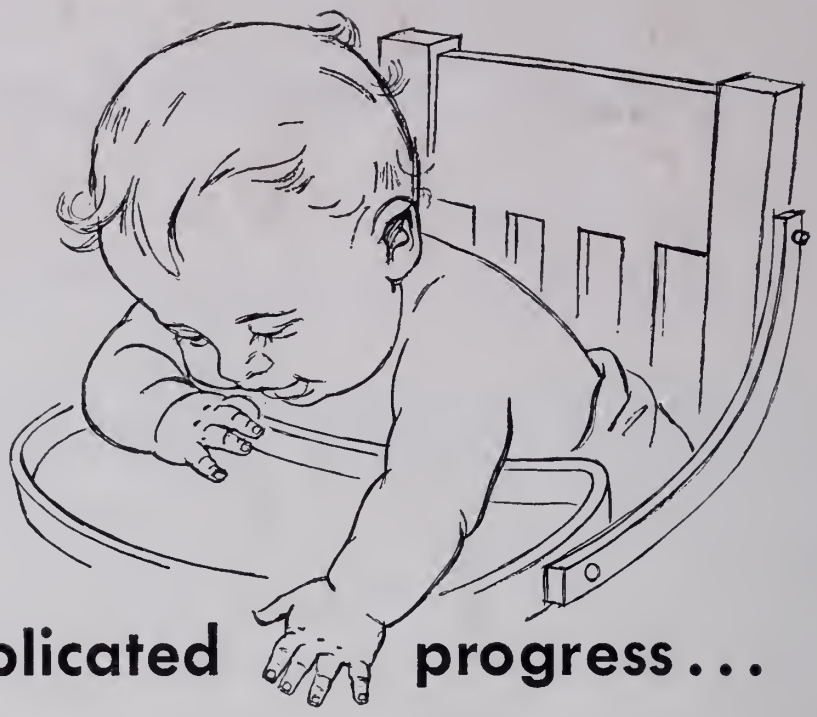

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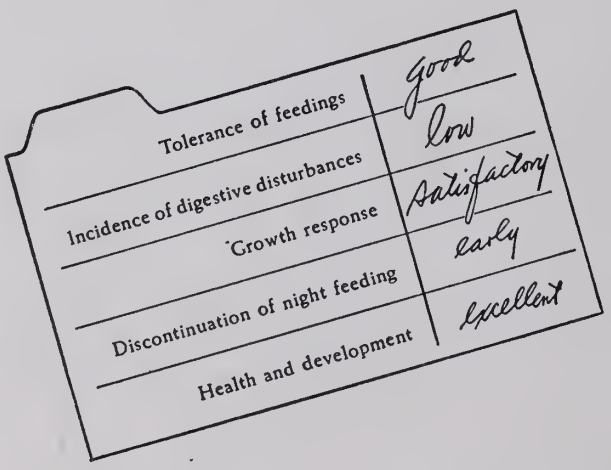

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1. Frost, L. H., and Jackson, R. L.: J. Pediat. 39: 585-592, 1951.

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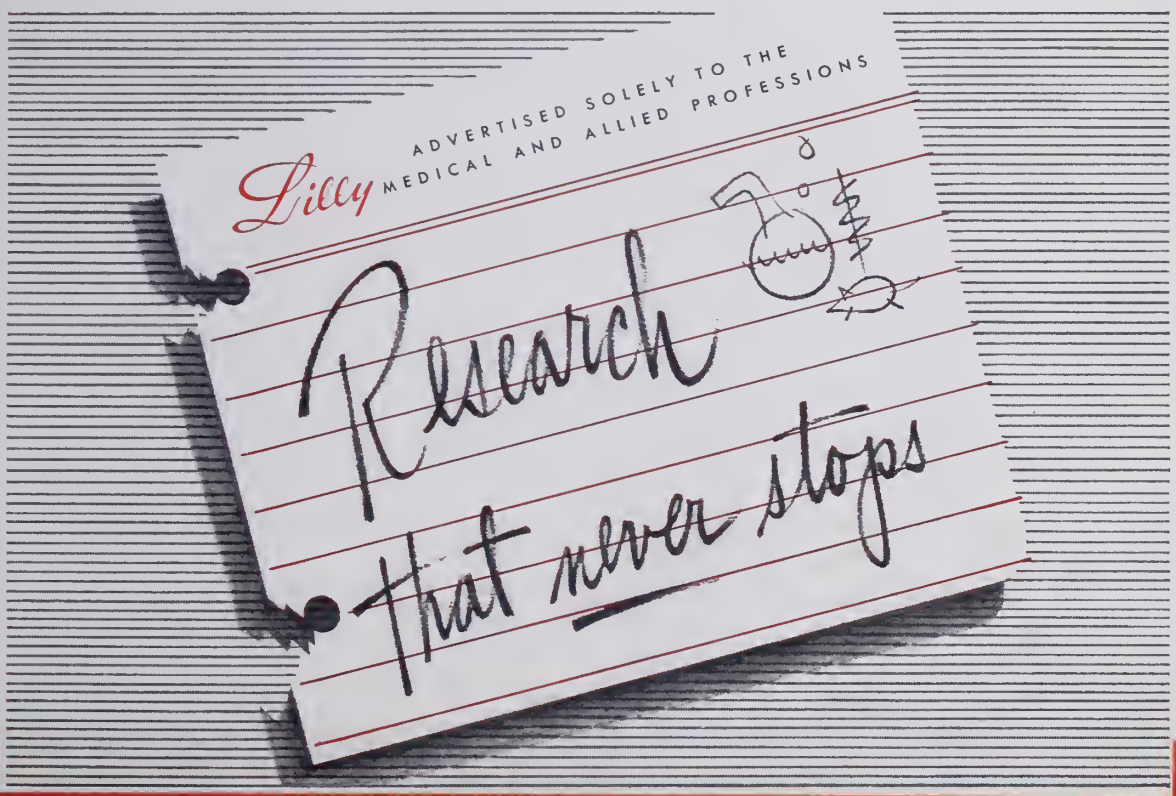

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IMPORTANCE OF BED REST IN TUBERCULOSIS

The American Trudeau Society (the Medical Division of the National Tuberculosis Association) at its annual meeting in Los Angeles (May 18-22, 1953) emphasized the fact that bed rest is still extremely important in the treatment of pulmonary tuberculosis. There has been a tendency to de-emphasize bed rest because of the spectacular gains made by the new antibiotics and surgical advancements.

In the very early stages of some investigations, evidence suggests (in highly selected cases), that a moderate reduction in rest therapy, during prolonged chemotherapy, is not detrimental to the health of the individual. However, this does not apply to the average case of tuberculosis and much more nearly complete follow-up studies will be needed to determine fully the effect of this change in therapy.

The steadily declining death rate from pulmonary tuberculosis demonstrates that the lives of many patients who once would have succumbed to tuberculosis are being spared. However, it should be realized that we have just as many living cases of tuberculosis who need chemotherapy, surgical procedures and sanatorium care as we did a few years ago and there continues to be a need for more beds to treat these cases.

The fight against tuberculosis is not over in spite of the unduly enthusiastic reports that have appeared in the press. We must continue to find all cases of tuberculosis as early as possible, before the patient is sick enough to come for medical attention. Great strides have been made in the WAR against tuberculosis, but the conflict is not yet over.

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Recent basic research on the influence of fats and cholesterol on human health has done much to further progress in the fight against atherosclerosis. It will serve well in dispelling the mistaken fear that reasonable amounts of foods of animal origin predispose the individual to this vascular disease.[6] As a matter of fact, a dietary inadequate in essential nutrients but providing too many calories and too much fat from *any* source may well be an important factor underlying the deposition of fat and cholesterol in the arteries and liver.

Cumulative evidence indicates that lowered blood levels of cholesterol may be effected by restricting the total fat intake.[1] Except in instances of refractory hypercholesteremia, in which a daily fat intake as low as 10 Gm. may not reduce cholesterol levels to normal, diets containing 20 to 30 Gm. of fat, or even more, often produce low cholesterol blood levels. In the clinical application of this principle, various palatable, low fat diets which supply three servings of meat daily (containing 18 Gm. of fat) have recently been suggested for the dietary management of arteriosclerosis and for enlisting the cooperation of patients.[1] The meat servings were chosen from a large variety of cuts and kinds of meat (fat trimmed off, as lean as possible). Meat adds to the eating appeal of the fat-restricted diet and contributes important amounts of biologically complete protein, the B group of vitamins including B_{12}, and food iron—all of which are important for a good state of nutrition in the atherosclerotic patient.

1. Hildreth, E.A.; Hildreth, D.M., and Mellinkoff, S.M.: Principles of a Low Fat Diet, Circulation *4*:899 (Dec.) 1951.
2. Bloch, K.: The Intermediary Metabolism of Cholesterol, Circulation *1*:214 (Feb.) 1950.
3. Keys, A.; Mickelson, O.; Miller, E.V.O., and Chapman, L.B.: The Relation in Man Between Cholesterol Levels in the Diet and in the Blood, Science *112*:79, 1950.
4. Gubner, R., and Ungerleider, H.E.: Arteriosclerosis, a Statement of the Problem, Am. J. Med. *6*:60, 1949.
5. Hildreth, E.A.; Mellinkoff, S.M.; Blair, G.W., and Hildreth, D.M.: The Effect of Vegetable Fat Ingestion on Human Serum Cholesterol Concentration, Circulation *3*:641 (May) 1951.
6. King, C.G.: Trends in the Science of Food and Its Relation to Life and Health, Nutrition Rev. *10*:1 (Jan.) 1952.

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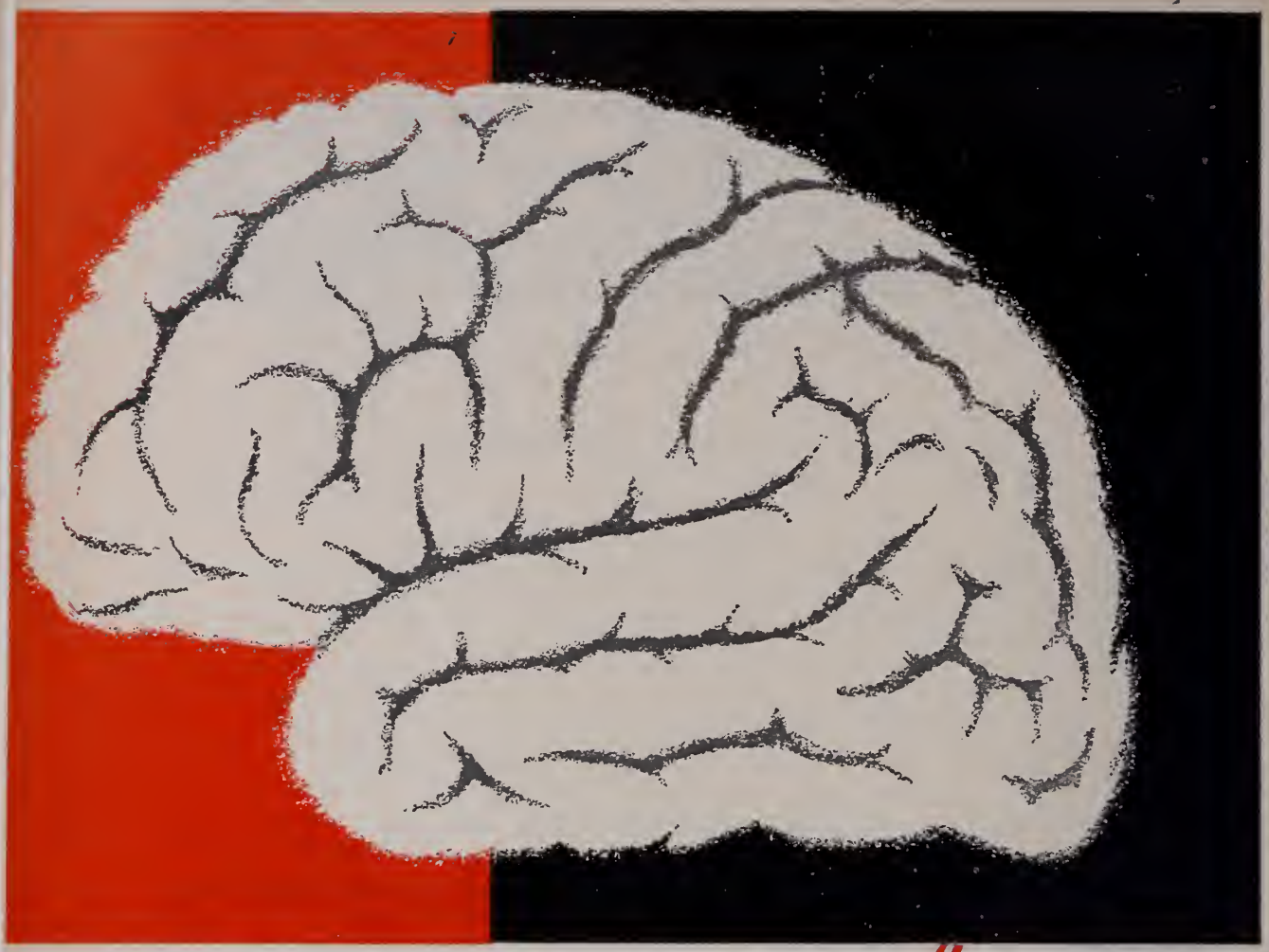

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(1) Krantz, J. C., and Carr, C. J.: The Pharmacologic Principles of Medical Practice, Baltimore, The Williams & Wilkins Company, 1949 (Reprinted 1950), p. 518. (2) *ibid,* p. 515. (3) Carter, S.: Epilepsy, in Conn, H. F.: Current Therapy 1952, Philadelphia, W. B. Saunders Company, 1952, p. 612. (4) Salter, W. T.: A Textbook of Pharmacology, Philadelphia, W. B. Saunders Company, 1952, p. 231.

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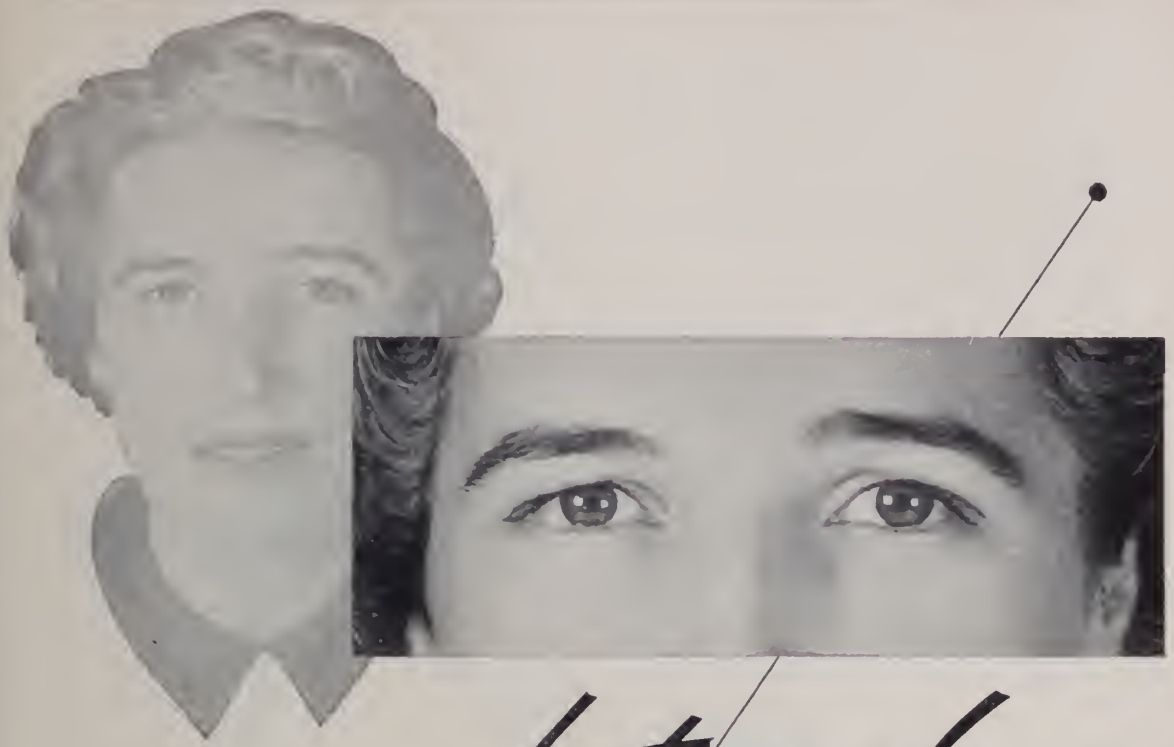

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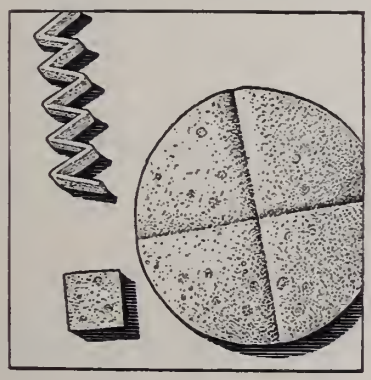

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JULY, 1953

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THE ACUTE INFECTIOUS DIARRHEAS*

JOSEPH FELSEN, M. D.
NEW YORK, N. Y.

It is particularly gratifying and a signal honor for me to be privileged to again speak before the Louisiana State Medical Society after a lapse of fifteen years. Although a similar subject is being presented, the passage of time has permitted a sober re-evaluation in the light of new developments. This is always a valuable criterion of the ever-changing and sometimes evanescent theories often prompted by enthusiasms of the moment. Let us then re-examine the general mechanism of acute intestinal infections and consider, in turn, bacillary dysentery, Salmonella disease, focal non-specific enterocolitis, viral dysentery, epidemic diarrhea of the newborn, and staphylococcal food poisoning.

The acute infectious diarrheas, theoretically, should include those due to an infecting organism, whether it be primarily enteric or extra-enteric. It is extremely doubtful that any bacterium or virus has any direct deleterious action on the intestinal mucosa merely by virtue of contact. Besredka's theory of local tissue immunity seems to make sense when applied to the intestinal mucosa which is constantly laved by pathogens or potential pathogens. It seems more likely that the noxious products of bacterial metabolism, such as toxins or viral agents, are absorbed through the intact intestinal mucosa and eventually reach all parts of the body. These are then excreted into the lumen of the bowel, perhaps in more virulent form, through the intramural intestinal arterial arborizations which end as a filamentous network to surround, embrace, and penetrate the solitary acuminate lymph nodules. These dot the entire gastrointestinal tract and serve as filtering or detoxifying mechanisms. We would naturally expect them to bear the brunt of injury and this is exactly what we find in Shigella and Salmonella disease. There is no convincing evidence that these lymphoid structures are injured by direct action of bacteria in the bowel lumen. In focal non-specific enterocolitis the focus is extra-enteric, usually in the upper respiratory tract, and for this reason fecal cultures are valueless.

BACILLARY DYSENTERY

Any consideration of this disease would be incomplete without the mention of Duval and Silverman, pioneers in the bacteriological and clinical studies on Duval (Sonne) infections. The present sharply rising trend in the incidence of acute bacillary dysentery can no longer be attributed to better diagnosis or reporting. These factors have been stabilized since 1934 when the disease was finally made reportable in all of our states. The graph (Figure 1) indicates that a peak of 38,313 cases was reached in 1944, followed by a precipitate drop to about 17,000 in 1947, only to be succeeded by a rapidly rising incidence which reached 32,425 in 1951, the last year of available public health statistics. From data at hand this cannot be attributed to returning Korean war veterans. It is unusual for the convalescent carrier state in

*Presented at the Seventy-third Annual Meeting of the Louisiana State Medical Society, New Orleans, May 9, 1953.

Figure 1

bacillary dysentery to exceed one month and, very rarely, one year. It is generally conceded that the reported incidence is but a fraction of the actual incidence. During the epidemic of Flexner dysentery in 1934[1] the proportion was about 1:20. We learned this during the Jersey City epidemic of 1934 by sigmoidoscoping all contacts, whether they had symptoms or not. To our great surprise, many had no complaints and yet exhibited the characteristic intestinal lesions, positive culture, a rising agglutination titer and positive phage. These individuals were potentially more dangerous in spreading the infection than the sick patients who were confined to bed. Failure of clinical recognition and procrastination in culturing patients with diarrhea appear to be the real reasons for the rising incidence of bacillary dysentery.

The difficulties in clinical diagnosis rest chiefly with the atypical cases, 7 of which it was our privilege to describe—the constipated, afebrile, asymptomatic, appendicular with acute distal ileitis, pneumonic, meningitic and agranulocytoid. It was the last 4 which led us to regard bacillary dysentery as a systemic disease with focal intestinal manifestations. The extra-enteric symptoms and signs dominated the clinical picture at the onset and most infective period of the disease. All exhibited the characteristic 3-stage progression of intestinal pathology, namely, punctate follicular hyperplasia, punctate follicular necrosis and discrete and confluent ulceration on the first, second, and third days of the disease.[2] This was accompanied by positive cultures, a rising agglutination titer, diagnostic phage and a typical purulent cytology of the mucosal exudate. These observations clearly indicate that in acute bacillary dysentery all contacts must be examined. We would then be in a better position to control the disease and understand the relationship to chronic ulcerative colitis and ileitis. In a study of 1,072 cases of the latter diseases (chronic ulcerative colitis 994, ileitis 31, combined form 47) we obtained 75 (7 per cent) positive cultures for *B. dysenteriae*, as compared with 0.08 per cent in 6,000 controls. Impressive epidemiologic data was secured in 236 cases.

Bacteriologic identification of the dysentery (Shigella) strains has outstripped clinical recognition and control. Due largely to the work of Boyd, supplementing the previous studies of Andrews and Inman, we now recognize 19 serologic types of the Flexner bacillus, in addition to the Shiga-Kruse, Schmitz, Sonne-Duval and alkalescens organisms. The Large-Sachs group is relatively rare. All are pathogenic for man. One observation may be of interest. The Shiga-Kruse organism, formerly very prevalent and virulent, particularly in the Far East, is now relatively infrequent. The Flexner and Sonne-Duval strains now appear to be dominant throughout the world, an example of biologic disease adaptation by both the infecting agent and host. We may confidently expect the return of Shiga-Kruse infections in the near future. The same phenomenon is evident in therapy where sulfonamid-resistant and, more recently, antibiotic-resistant dysentery strains are being encountered. At the present writing terramycin, chloramphenicol, and aureomycin appear to be effective against most dysentery strains, and Silverman[3] has found bacitracin therapy curative in chronic bacillary dysentery.

The relationship of bacillary dysentery to chronic ulcerative colitis and ileitis is still a controversial subject. Most serious students of the subject acknowledge that *some* but not all are due to bacillary dysentery. The differences of opinion are due largely to inadequate study of the acute cases, fail-

ure to recognize many of them clinically and paucity of follow-up data. Our follow-up studies[4] of the Jersey City epidemic of 1934 revealed an incidence of 10.7 per cent among 122 of an initial group of 210 hospitalized patients. These are based upon accurate observation of our best experimental subject, the human being. We followed the disease in the same patients from the initial phase of acute bacillary dysentery to the fully developed stage of chronic ulcerative colitis and ileitis at the end of nine to twelve months. This work has been confirmed elsewhere.[5]

Two other subjects of recent interest in connection with chronic ulcerative colitis are the relationship to carcinoma of the colon and to pregnancy. The first is particularly controversial, Bargen[6] and others holding that a relatively high incidence of carcinoma occurs in ulcerative colitis.

There is no doubt that carcinoma occurs in ulcerative colitis but our studies and those of Snapper and Otani fail to indicate any relationship. There is no evidence that the pseudo-polyposis of ulcerative colitis develops into carcinoma in situ or otherwise, such as one sees in adenomatous polyps. In 1,072 of our cases, carcinoma occurred in 7 (0.65 per cent) as compared with 0.8 per cen in 12,025 general admissions without ulcerative colitis at the Bronx Hospital during 1946 and 1947.

Pregnancy appears to have a rather salutory effect on a pre-existing chronic ulcerative colitis. Our own experience covers 117 pregnancies occurring in 72 patients. During 50 of these pregnancies the patients felt well symptomatically and this state was reflected by improved or absent sigmoidoscopic findings. In 39 pregnancies the patients were not well but without any significant influence on the pregnancy. In 5 patients the disease started during pregnancy and these are included in the group of 39. Their disease was no worse than in the other 67 patients in whom it antedated the pregnancy. In 8 pregnancies the colitis was definitely worse after delivery but quiescent during pregnancy. In 11 instances the data was incomplete.

SALMONELLA DISEASE

Next to acute bacillary dysentery, Salmonella disease appears to be the most prevalent infectious diarrhea throughout the world.

There are several points of similarity between the Shigella (dysentery) and Salmonella infections. Both are transmitted "from hand to mouth" or more properly "from intestine to mouth," the chief vehicles being the three F's—food, fingers and flies. Adaptations to the human host leading to increasing prevalence and pathogenicity have occurred in Sonne-Duval infections and *B. alkalescens* just as they have developed in the case of the present 150 or more Salmonella strains. The heterogenicity of the Shigella strains are paralleled by the even more complex Salmonella genus. The intestinal lesions primarily involve the lymphoid structures in both diseases. Epidemiologic measures involve the same factors. These observations indicate that measures directed at the control of acute bacillary dysentery should at the same time effectively control Salmonella infections. These two diseases constitute the vast majority of infectious diarrheas due to known enteric pathogens and their incidence is closely paralleled by the prevalence of unclassified dysenteries. The latter drop sharply when carefully studied since most of them appear to be bacillary dysentery. It strikes us, therefore, that *all* should be handled with the same meticulous care as we do typhoid. Measures directed at typhoid alone have failed to control the Shigella and other Salmonella infections.

We now recognize more than 150 Salmonella strains pathogenic for man. As in acute bacillary dysentery, the reported incidence is probably far below the actual incidence. Many cases are unrecognized because of their relative mildness. On the basis of antigenic analysis (0 or somatic antigens) the Salmonellae have been divided into five main groups and many subgroups (on the basis of H or flagellar antigens). Representatives of the main groups are shown in Table 1.

TABLE 1
CLASSIFICATION OF SALMONELLA STRAINS

Group	Salmonella
A	Paratyphi A
B	Paratyphi B (Schottmülleri)
	Typhimurium
	Derby
C	Choleraesuis
	Oranienberg
	Montevideo
	Newport
D	E. typhosa
	Enteritidis
E	Panama
	Ananatum
	Seftenberg
	Give

The most frequent source of Salmonella infection is domestic animals, particularly fowl and swine. The organisms are found in both diseased and healthy domestic animals, the latter including carriers such as rats and mice. They have also been demonstrated in the mesenteric lymph nodes of normal hogs, in normal hens, and in dried eggs. In Europe, duck's eggs are frequently implicated and, in Norway, cheese. They occur in meat products, particularly hog's liver. Sewage is a prolific source of Salmonella infection. Many types of birds are carriers and many harbor the organism in the ovaries or testicles.

In man, the most frequent source of Salmonella infection appears to be food animals. Infected meat—food contaminated by sewage, infected foodhandlers, or by the excreta of rodents—is frequently the source of outbreaks. The most serious outbreaks have been due to ingestion of meat of animals that have died with the septicemic type of disease or to safe food which has been contaminated and stored under conditions which permit the rapid growth of an otherwise numerically low bacterial population. *S. paratyphi A* and *S. choleraesuis* cause sporadic cases while *S. typhimurium, S. paratyphi B* and others are usually related to outbreaks. *S. typhimurium* causes more individual cases than outbreaks through food, milk and water, while *S. paratyphi B* is apt to be responsible for contact infections.

Human carriers play an important role in the dissemination of Salmonella infections. The subject of typhoid carriers requires no reiteration. In a recent outbreak at a summer camp in Far Rockaway, New York, 40 cases of typhoid were traced to a cook. Nine contact cases were discovered during the course of a careful epidemiologic investigation[7] without clinical symptoms or signs. Chronic human carriers of Salmonella strains of animal origin are rare. *S. typhimurium* and *S. choleraesuis* are the most prevalent representatives of the animal group and *S. paratyphi B* of the human group. *S. paratyphi B* may be present in the gall bladder of a carrier for a long period of time and may also be excreted through the urinary tract. Carrier states for other than *S. paratyphi B* and *S. typhi* infections are generally shorter and terminate spontaneously.

All age groups are susceptible to Salmonella infection, but the very young are particularly so, with an attendant high mortality. Approximately 30 per cent of all sporadic infections occur during the first decade, chiefly with *S. typhimurium, S. paratyphi B, S. oranienberg* and *S. newport*, in order of diminishing frequency.

The seasonal incidence of Salmonella infections corresponds to that of bacillary dysentery. It is highest during the warm season and lowest during the cold, parallelling the prevalence of the fly population.

There is a paucity of clinical data regarding most Salmonella infections except typhoid and paratyphoid. The reason lies in the relative mildness of the illness in many instances, the failure to recognize the disease, and almost complete absence of sigmoidoscopic and pathologic data.

Salmonella infection should be regarded as a systemic disease with focal intestinal manifestations. This concept, similar to that proposed for Shigella infections, explains many of the bizarre clinical pictures encountered, such as the typhoid-like, appendicular, pneumonic and meningitic types. The last two are merely extra-enteric lesions which dominate the clinical manifestations, often to the exclusion of diarrhea. Variations in pathogenicity and

virulence largely determine the severity of the disease and the ultimate outcome. Age is also a factor, the two extreme age groups being most susceptible and exhibiting the highest mortality. Similarly, malnutrition and illness are contributory factors to morbidity and mortality. The incubation period for most Salmonella infections is eight to twenty-four hours. The minimal period is somewhat less.

A convenient clinical classification of the typical Salmonella infections is that comprising the (1) intestinal, (2) febrile, and (3) septicemic types. They overlap somewhat, many patients exhibiting features of all three.

The intestinal type of Salmonella infection is usually mild in adults. It is ushered in by a feeling of malaise and nausea or vomiting. This is followed by a mucoid or watery diarrhea which is generally accompanied by abdominal cramps of moderate severity. Intestinal bleeding is infrequent. Sigmoidoscopy reveals a diffuse reddish blush to the mucosa which is sometimes studded with whitish hyperplastic lymph nodules. Superficial mucosal erosions and some punctate follicular necrosis may be present. The three-stage progression of intestinal pathology and purulent mucosal exudate, typical of acute bacillary dysentery, are usually not seen, the lesions being most marked in the lymph nodules. Spasm and tenderness of the terminal ileum and sigmoid may be noted upon deep abdominal palpation. Such manifestations in the right lower quadrant may simulate acute appendicitis. Fever is moderate and of short duration, and recovery is generally complete in one week in the adult. Infants are more seriously affected, with an attendant higher mortality. *S. typhimurium* and *S. enteritidis* appear to be most frequently implicated in the intestinal type of Salmonella infection.

The febrile type resembles typhoid fever, particularly in *S. paratyphi A*, *B* and *C* and *S. sendai* infections. Fever is usually the most prominent clinical feature but by no means the only one. Suggestive rose spots, a leukopenia, slow pulse and splenomegaly usually impel the clinician to resort to blood culture, Widal tests and stool cultures in order to rule out typhoid. Blood cultures are more frequently positive early and stool cultures or Widal tests late in the course of both the febrile type of Salmonella infection and typhoid. Except in *S. paratyphi B* infection, the mortality incidence is low. The clinical course varies from three to five weeks. Misleading pulmonary or appendiceal symptoms and signs may confuse the clinical picture. *S. paratyphi A* and *B* are most frequently encountered in the febrile type of Salmonella infection.

The septicemic type presents a clinical picture like that seen in bacteriemia by pyogenic cocci. The intestinal manifestations are minimal or absent. The febrile reaction is of the "spiking" variety and focalization may occur in the meninges or bone. Blood cultures are positive and the mortality incidence is high. *S. choleraesuis* is the most frequent cause of this type of the disease.

Among the atypical forms of Salmonella infection are the appendicular, pneumonic, meningitic, and asymptomatic. They are less distinctive than similar types seen in acute bacillary dysentery. Their significance lies chiefly in the clinical and epidemiologic implications. The pneumonic and meningitic types differ from those of bacillary dysentery in that the specific organism can be recovered from the sputum and meninges, respectively, when Salmonella is the infecting agent.

Complications of Salmonella infection are cholecystitis, empyema of the gall bladder, salpingitis, pyelonephritis, bacterial endocarditis, and osteomyelitis. Complications are rare in adults, more common in infants and children. Middle aged females are apt to retain *S. paratyphi B* in the gall bladder for long periods of time and thus may become chronic carriers.

The distribution and character of the pathological lesions in the intestines resemble those seen in typhoid. In one instance, at the Bronx Hospital, that of an adult who succumbed to an infection with *S. panama*, the major pathology was seen in Peyer's

patches and the solitary acuminate lymph nodules of the ileum and colon. Varying degrees of hyperplasia and necrosis were noted, with scattered small superficial erosions of the mucosa. There was marked congestion of the mucosal and submucosal vessels with some accompanying round-cell, plasma-cell and polymorphonuclear-cell infiltration. A striking feature was the absence of the cellular barrier at the base of an ulcerated area as seen in acute bacillary dysentery. The mesenteric and mesocolic lymph nodes were enlarged and exhibited varying degrees of lymphoid hyperplasia, focal necrosis, interstitial edema and lymph stasis. Similar findings were present in the spleen. Changes in the other organs were noted, such as cloudy swelling of the renal epithelium, pulmonary congestion, fragmentation of the myocardial fibers and interstitial edema. The general pathologic changes suggested a severe toxic process, death occurring three days after the onset of the infection. Two daughters with the same infection survived. Our sigmoidoscopic studies in milder cases of Salmonella infection have generally revealed a diffuse hyperemia of the mucosa with lymphoid hyperplasia or punctate follicular necrosis. The picture resembles that seen in intestinal allergy except for involvement of the lymph nodules and absence of eosinophiles in the mucosal exudate.

Chloromycetin (chloramphenicol) and terramycin appear to be the most effective antibiotics in typhoid and other Salmonella infections. In one instance, at the Bronx Hospital, Mond[8] reports the prophylactic value of chloramphenicol in the case of a newborn infant born of a typhoid carrier. Zimmerman, Cooper and Graber,[9] in recent studies in Korea, found that *S. paratyphi*, *S. typhimurium* and *S. paratyphi B* (*schottmülleri*) were equally sensitive to both antibiotics mentioned above. Very few strains were sensitive to aureomycin. Because of wide variations in the susceptibility of the many Salmonella strains to antibiotic agents, it is advisable to test out specific isolated cultures routinely. The divided culture plate[10] is a convenient and economical method.

The greater portion of this paper has been devoted to the two major infectious diarrheas, viz., bacillary dysentery and Salmonella disease due to primary enteric pathogens. In concluding this presentation we shall briefly describe a group of infections which has attained clinical significance comparatively recently—acute focal nonspecific entercolitis, viral dysentery, staphylococcal food poisoning and epidemic diarrhea of the newborn.

FOCAL NONSPECIFIC ENTEROCOLITIS

Acute focal nonspecific enterocolitis may be defined as an acute inflammation of the ileum and colon due to a toxin, bacterium, or virus produced in some extra-enteric focus. Diarrhea is generally the most prominent feature. Abdominal pain may be present and is usually located in the right lower quadrant. Tenderness can often be elicited over the distal portion of the ileum and sigmoid. The bowel movements are usually of watery consistency, may contain mucus, rarely blood. There is always an initial associated infection elsewhere in the body. The intestinal symptoms and signs follow the onset of that infection, often last somewhat longer but usually subside with resolution or eradication of the primary extra-enteric disease. The chief clinical features are generally those of the primary infection but the latter may be overshadowed by those of the secondary focal enterocolitis. Recurring attacks of the primary disease are apt to be followed by a repetition of the intestinal manifestations in each instance, particularly in the case of respiratory infections or sore throat in children. Cessation of the recurring attacks of the primary disease is paralleled by the disappearance of further intestinal symptoms. The prognosis is that of the primary disease except that infants sometimes die with dehydration, acidosis, and hypovitaminosis as a result of the frequent watery bowel movements.

The intestinal lesions vary from hyperemia and edema of the mucosa with lymphoid hyperplasia to superficial mucosal erosions. Considerable mucoid exudate is

present, the cytology including lymphocytes, some polymorphonuclear cells, and eosinophiles. Mesenteric lymphadenitis may be noted. Sigmoidoscopic crypt aspiration culture is negative for the specific enteric pathogens of the Salmonella-Shigella group.

Aside from the frequent intestinal manifestations seen in association with upper respiratory infections in infants and children, similar observations have been made in adults. A striking example was the case of a young pharmacist whose frequent attacks of "colitis," over a period of years, were always associated with tonsillitis. Pus could be expressed from the crypts. Sigmoidoscopy revealed a hyperemic, boggy mucosa in the recurrent phase and appeared normal when the tonsillitis subsided. Tonsillectomy resulted in complete freedom from intestinal symptoms and signs during a follow-up period of nine years.

The treatment of focal nonspecific enterocolitis is that of the primary extraenteric disease. The absorbable sulfonamides or suitable antibiotics may be used, depending upon the nature and sensitivity of the infecting organism. In babies, phleboclysis, transfusion of whole blood, lyophile plasma and other supportive measures must be used early, for the margin of safety between life and death is exceedingly narrow.

VIRAL DYSENTERY

Viral dysentery was described by Reimann, Hodges and Price[11] as occurring in epidemic form and consisting of diarrhea, nausea and vomiting. It was regarded as due to a viral agent. Experiments on medical students pointed in this direction. Fresh, filtered broth garglings and suspensions of diarrheal stools from sick patients were administered to the experimental subjects. The nebulized filtrates were inhaled in a closed container. Within a few days many of the students developed malaise, headache, abdominal discomfort, nausea, vomiting and diarrhea. Some had a nasopharyngitis. No symptoms followed the ingestion of gelatin capsules filled with filtered material obtained by gargling or with filtered fecal suspensions. The investigators concluded that the noxious agent was a filtrable virus which was air-borne and entered the body through the respiratory tract. It was present in the oropharynx and intestinal tract. It appears quite probable that viral dysentery falls into the preceding group of focal nonspecific entercolitis in which the primary focus is in the upper respiratory tract. The infection reaches the intestinal wall through the indirect hematogenous excretory mechanism. Both the experimental and clinical data lend support to this view.

EPIDEMIC DIARRHEA OF THE NEWBORN

Epidemic diarrhea of the newborn occurs during the first two or three weeks of life, is most prevalent in the north temperate zone, and affects chiefly premature and artificially fed infants. It occurs in hospitals and affects groups of infants. The clinical picture is characterized by the sudden onset of diarrhea in a previously healthy infant. In some instances there may be prodromal symptoms such as vomiting, arrested weight gain, listlessness, and anorexia. Diarrhea, accompanied by slight fever, dehydration, frequent respiratory and otitic complications, and a high mortality (almost 50 per cent in some outbreaks) comprise the chief clinical manifestations. The cause is unknown. In one outbreak coagulase-positive *Staphylococcus aureus*[12] appeared to be of etiologic significance. Other investigators have implicated *B. coli, B. morgani, B. dysenteriae,* streptococcus, *B. mucosus* and pneumococcus. In the outbreak referred to above, there was no mortality among 19 babies affected. This surprising result appeared to be due to the use of sulfathiazole and concentrated lyophile plasma both prophylactically and for curative purposes. Sick infants were given 6 gr. of sulfathiazole thrice daily for two days, followed by 3 gr. thrice daily for two days. They also received 50 cc. of plasma of normal concentration, subcutaneously as an initial dose. Thereafter, 25 cc. of twice concentrated plasma (ie., adding half the amount of distilled water normally used) was injected intramuscularly daily for three days. Prophylactic sulfathiazole therapy for contacts was started when the

newborn was 48 hours old and consisted of 3 gr. thrice daily for three days. This was supplemented by 25 cc. of plasma of normal concentration subcutaneously daily for three days. No contact infections developed. It is quite possible that epidemic diarrhea of the newborn falls in the group termed "focal nonspecific entercolitis." In recent years the disease appears to have lost much of its initial severity and high mortality.

STAPHYLOCOCCAL FOOD POISONING

Staphylococcal food poisoning is generally due to contamination of custard or similar foods by a food handler with a staphylococcal skin infection. Subsequent environmental conditions favoring the production of toxin by the viable cocci produce an acute clinical syndrome characterized by fever, vomiting, diarrhea, cramps, and marked prostration. The clinical course is usually brief, being a matter of one to three days, and the mortality negligible in adults. Sigmoidoscopy in one instance revealed an evanescent moderate, diffuse hyperemia and edema of the mucosa. Resterilization of custards and similar foods as a routine procedure is advocated as a preventive measure.

The causative agent is an enterotoxin produced by coagulase-positive hemolysin and rich pigment producing strains of *Staphylococcus aureus*. The organism is particularly pathogenic for young kittens. These animals are inoculated by the peritoneal route, according to the method of Dolman, Wilson and Cockcroft.

SUMMARY

Bacillary dysentery continues in high incidence and we have indicated its relationship to chronic ulcerative colitis. This alone should justify stern control measures, such as those employed in typhoid. Shigellosis is accompanied by a parallel increase in Salmonella disease, often unrecognized and unreported. The clinical and pathological features of both have been presented. The more recently described infectious diarrheas are those due to primary extraenteric infective agents, viral dysentery, epidemic diarrhea of the newborn, and staphylococcal food poisoning.

REFERENCES

1. Felsen, J., Rundlett, E. V., Sullivan, J., and Gorenberg, H.: Atypical Flexner dysentery. J. A. M. A. 103: 1055, 1934.

2. Felsen, J.: Acute and chronic bacillary dysentery. Am. J. Path. 12:395, 1936.

3. Silverman, D. N.: Bacitracin therapy in chronic bacillary dysentery. Gastroenterology 19:320 (Oct.) 1951.

4. Felsen, J., and Gorenberg, H.: Chronic dysentery, distal ileitis and ulcerative colitis. A follow-up of the Jersey City epidemic of bacillary dysentery. Am. J. Med. Sc. 192:553, 1936.

5. Felsen, J.: Bacillary Dysentery, Colitis and Enteritis. W. B. Saunders Co., Phila., Pa., 1945.

6. Bargen, J. A., and Sauer, W. G.: The association of chronic ulcerative colitis and carcinoma. Clinics 3:516 (Oct.) 1944.

7. Fuerst, H. T.: Typhoid fever outbreak at a day camp, Quart. Bull. N. Y. City Dept. Health 20:36, 1952.

8. Mond, I.: Use of chloramphenicol and typhoid vaccine in infant born of typhoid carrier. J. A. M. A. 147:249 (Sept. 15) 1951.

9. Zimmerman, L. E., Cooper, M., and Graber, C. D.: Bacterologic studies in epidemic of bacillary dysentery in Korea. Am. J. Clin. Path. 22:549 (June) 1952.

10. Felsen, J.: A divided culture plate. Am. J. Clin. Path. 19:289 (March) 1949.

11. Reimann, H. A., Hodges, J. H., and Price, A. H.: Epidemic diarrhea, nausea and vomiting of unknown cause. J. A. M. A. 127:1, 1945.

12. Felsen, J., and Wolarsky, W.: Epidemic diarrhea of the newborn. Arch. Pediat. 59:495 (August) 1942.

MANAGEMENT OF OTITIS MEDIA; ANTIBIOTIC THERAPY VERSUS SURGICAL PRINCIPLES*

J. W. McLAURIN, M. D.

BATON ROUGE

Otitis media has never been an easy disease to treat, and the results of therapy have always left something to be desired. That explains why, when the sulfonamides were introduced and were followed in turn by the various antibiotics, otolaryngologists seized upon them so eagerly as the solution of this problem. All of us, I am afraid, were equally guilty. None of us is in any position to cast stones. It seems fair to say, however, that some of us have not yet emerged from the dream.

The facts of the matter are that these agents have not proved the panacea for which we sought in otitis media, and that they have, on the contrary, proved both delusory and dangerous. This is not, of course, because they have failed. The failure

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From the Department of Otolaryngology, Tulane University of Louisiana School of Medicine.

is human. The sulfonamides and antibiotics have been used indiscriminately and unwisely. They have been employed in a disease in which they could not be expected to be effective. It has been almost entirely forgotten that these agents, because of their biologic properties, are capable of relieving the symptoms of otitis media while at the same time the pathologic process which gives rise to the symptoms may continue only partly checked, or entirely unchecked, with results that may be disastrous.

It is ironic that otolaryngologists were warned of these dangers almost as soon as the new chemotherapeutic era began. In 1939, less than two years after sulfonilamide had first been used clinically in this country, Maybaum and his associates,[1] from Mt. Sinai Hospital in New York, warned of the dangerous masking potentialities of this drug and proved this point with a number of highly instructive case reports. Two years later, in 1941, when the swing to the new drugs was in full flood, Fowler[2] spoke out even more strongly. Chemotherapy, he said, had become the medical fashion, and patients were themselves demanding this new method, though a large proportion of the cures attributed to it were really spontaneous remissions. Any physician, he continued,

> "who in shot-gun fashion prescribes a drug in all cases without discrimination is reflecting ignorance, laziness or poor judgment as to the expectancies of serious trouble from otitis media. He may sensitize his patient, damage his liver or kidneys, or render him drug-fast while using chemotherapy for a minor ailment, which at a later date might then be unavailable for a serious infection."

It is extremely unfortunate that those early warnings were not heeded. If they had been, our present difficulties would not have come to pass. We are now in the ironic position of being called upon to treat not only patients with primary otitis media whom we are fortunate enough to see early, but also, (1) patients with the complications of neglected disease, and (2) patients with the therapeutic complications of mistreated disease. These latter complications do not occur in the natural course of otitis media. They occur because the primary disease is masked by a mistaken faith in chemotherapeutic and antibiotic agents.

Let me cite our own recent experience, and let me assure you that the literature is full of the records of many similar experiences. During the past January, which was a typical winter month, we saw in our office 55 patients, chiefly children, suffering from otitis media for which myringotomy was indicated. Thirty-four of the patients had had no previous treatment. They were all submitted to myringotomy and they all recovered promptly, with no further treatment other than standard measures, in an average of 5.17 days.

The remaining 21 patients had all been treated previously by chemotherapeutic or antibiotic agents, without myringotomy. They sought medical relief because their ears had failed to heal, or because of continuing or recurrent infection. Like the group of patients just mentioned, all were submitted to myringotomy. But their recovery took, on the average, 13.55 days. Furthermore, 9 of them required the use of antibiotics, which were not employed until after their effectiveness against the organisms present had been proved in the laboratory.

It seems unnecessary to labor the point that an experience such as this calls for an evaluation of present methods of treatment of otitis media, especially on the part of otolaryngologists and other physicians who have been trying to manage this disease without the use of myringotomy.

FALLACIES OF PRESENT THERAPEUTIC METHODS

The present situation in the therapy of otitis media may be described about as follows:

1. History-taking is likely to be superficial. Local examination is likely to be equally superficial. In a startlingly large number of cases no attempt is made to examine the tympanum or, if rupture has occurred, to clean out the canal. Instead, there is a rather general tendency to administer penicillin to all patients, and particularly to all children, with symptoms referable to the ear and associated with fever

and other evidences of a constitutional reaction. Sometimes only a single injection is given. Sometimes the original injection is repeated once or twice. Sometimes a sulfonamide or some other antibiotic is administered also.

2. The drugs administered usually relieve symptoms promptly. Pain disappears and the temperature falls. Often the improvement is so dramatic that the adult does not return for further observation and the child is not brought back to the office. Parents, incidentally, are now so conditioned to the present methods of treatment that they demand them if the physician does not offer them himself. Their faith in the antibiotics, particularly penicillin, is also so great that they confuse the disappearance of symptoms with the elimination of infection, a confusion, it is fair to say, in which they are frequently joined by many general practitioners and pediatricians and even by some otolaryngologists.

3. In a large number of cases treated in this manner, cure really does occur, and the antibiotics receive the full credit for it. This is because it is generally forgotten that otitis media is a self-limiting disease and that the great majority of infections which respond to this sort of superficial therapy would have disappeared with the passage of time and the use of standard measures, or with no therapy at all. Four-fifths of all patients with this disease will recover spontaneously if suppuration has not occurred.

4. In a number of cases of otitis media, however, after the initial period of improvement, signs and symptoms of infection again become evident. There is nothing surprising about this. With the sort of treatment employed—antibiotics in small dosages over a brief period of time—bacteriostasis is incomplete and bactericidal activity does not occur at all. The patients themselves have no antibacterial elements in their blood. Natural immunity is not acquired when these drugs are used, and the organisms regain their former harmful properties if they are discontinued too soon. In many such instances the acute infection is merely transformed into a chronic infection and the patient may be left with a chronically discharging ear.

5. Mistreated otitis media is apparently becoming an important cause of otitis externa. When I reviewed my records of this disease in 1949, I was not particularly impressed by this etiologic factor. In a review of 157 cases which I have recently completed, I found that in 28 cases chronic middle ear disease was the apparent cause of the infection of the external ear.

6. In the occasional case far more serious things happen. Clinical improvement occurs, but the pathologic process, completely masked by the antibiotic agents used, continues inexorably, to present as mastoiditis with almost complete bony breakdown, meningitis, epidural or perisinal abscess, lateral sinus thrombosis, or brain abscess. I see two to four such cases every year myself, and the number recorded in the literature has now mounted to a sizeable total.[3]

7. Possibly my own keen interest in deafness in children is responsible for my feeling that one of the most disturbing consequences of mistreatment of middle ear disease is its effect on hearing. I have long believed that most of the so-called adhesive deafness of adult life is the result of inadequate treatment of otitis media in childhood. I am now modifying that long-held opinion with the prophecy that if we do not promptly change our therapeutic policies, we shall find that much of adult deafness is the result of the misuse of antibiotic and chemotherapeutic agents in otitis media in childhood.

Repeated attacks of otitis media are probably the commonest cause of conduction deafness in children. When the primary infection is only incompletely resolved, as it frequently is when it is inadequately treated with even the most potent of the new agents, adhesions form in the ossicular chain or between the tympanic membrane and the promontory, and the regional mucosa becomes thickened and fibrotic. The physician who takes the trouble—not all do—to examine the tympanic membrane will

find it dull, thickened and retracted. If spontaneous rupture has occurred, there is often a chronic discharge.

The situation is particularly serious when the disease is unilateral and when the patient is a child, as two-thirds or more of all such patients are. An adult who suffers from tinnitus, a sense of fulness in the ear, or an impairment of hearing is likely to seek medical aid promptly. A child is not unduly troubled by these symptoms, and even the most observant adults responsible for his care may overlook his deafness if it is unilateral. Bilateral deafness, of course, is unlikely to be overlooked, but unilateral deafness may not be noticed until the impairment has become irreversible.

8. Still another unfortunate consequence has resulted from the indiscriminate and inadequate use of the various antibiotics, particularly penicillin: The number of organisms sensitive to it is decreasing; the number of resistant organisms is steadily increasing, and so is the number of patients sensitized to it. Pulaski's[4] personal studies, and his comprehensive review of the literature, show that whereas originally some 95 per cent of all staphylococci were sensitive to penicillin, now almost 50 per cent are resistant. It is quite true that other broad-spectrum antibiotics have been developed, which can be used in the place of penicillin. They are still, however, considerably more expensive. Their use is associated with more side-effects. And it would surely be an egregious error to assume, granted their similar misuse, which is rapidly coming to pass, that resistance to them is not a logical future possibility.

It should be emphasized again that the situation which has come to pass cannot be attributed to any failure of antibiotic therapy per se. The explanation is the misuse and the inadequate use of these extremely valuable agents.

The majority of cases of otitis media, as already pointed out, do not require this form of therapy. Spontaneous recovery is the rule when suppuration is absent, and there is no shadow of reason for treating it with drugs which are expensive, which are often difficult to administer, which may give rise to various side-effects, some of them quite serious, and which may so sensitize the patient that when, in the future, there is real need for these agents, they are no longer effective.

The principles of correct antibiotic therapy are based on the use of the agent selected after laboratory testing (1) in sufficiently large dosages, (2) over sufficiently long periods of time to produce optimal concentrations at the site of the infection, and (3) the maintenance of these concentrations at this site until the organisms have been destroyed. The methods by which antibiotics are used in otitis media usually violate all of these principles. The dosage is usually small, frequently so small as to sensitize the patient without accomplishing destruction of the organism. If optimal concentrations are secured, they are seldom maintained for sufficiently long periods of time. It is doubtful, in fact, that they are ever secured at the site of infection, for as Butler[5] points out, it is difficult to envisage the meeting of the prime requirements of antibiotic therapy in such a region as the middle ear: The regional blood vessels are small. They deliver relatively small amounts of blood. They are readily susceptible to thrombosis. Finally, the pathologic process is inaccessible to concentrations of the antibiotic because it is, in effect, a localized abscess contained in a bony case. In other words, the physician who resorts to antibiotic therapy as the sole method of treatment in suppurative otitis media has completely lost sight of the fundamental surgical principle that the drainage of pus must be accomplished by surgical means.

The objective of all treatment is (1) to relieve symptoms, which the antibiotics usually accomplish in otitis media; (2) to eradicate infection, which they sometimes accomplish but which they frequently do not; and (3) to restore the normal physiology of the affected part, which they cannot accomplish in the presence of suppuration. I suggest that one reason why these facts are not generally realized is that patients

with otitis media are not usually followed up, in the utterly fallacious belief that penicillin is so potent that its mere administration will take care of anything that may happen.

MYRINGOTOMY VERSUS SPONTANEOUS RUPTURE OF THE TYMPANUM

In view of these facts, the question arises whether the position taken by some physicians is sound, that myringotomy is an outmoded operation because the antibiotics have taken its place. The very word, Deweese[6] says indignantly, is being dropped from the vocabulary of students and pediatricians. There is no more justification for this point of view than there is for the position that spontaneous rupture is equally as satisfactory as selective incision. It may relieve the symptoms, but there are at least three reasons why it is not conducive to favorable progress:

1. The favored location for drainage is inferior, for the reason, to speak colloquially, that the only way to empty a barrel is to make an opening in the bottom. Rupture usually takes place at the superior portion of the tympanum, and is frequently too small for satisfactory evacuation of the exudate, whether it be serous or suppurative. Anyone who doubts that statement has only to witness the flow of exudate which practically always follows incision of the posteroinferior quadrant after spontaneous rupture.

2. Granted that some drums rupture in a location favorable for healing, others do not. If the perforation is in Shrapnell's membrane, chronic suppuration may occur in the attic, with all the risk of extension of the disease to the labyrinth, lateral sinus, facial nerve and meninges.

3. Rupture is always caused by ischemic necrosis. It is therefore to be expected, because the pus must tunnel its way through layers of tissue, that the drum would be more scarred in spontaneous rupture than in a clean surgical incision.

As to what happens when antibiotic therapy is employed with myringotomy, I, like other physicians brought up on the fundamental principle that the presence of pus requires surgical drainage, will continue to believe that what wrought the improvement was the release of pressure and evacuation of exudate, and that the influence of the antibiotic was entirely secondary.

PRINCIPLES OF THERAPY

If one rejects the management of primary otitis media by the antibiotics, what policy is to be followed? I suggest that we return to the following first principles, beginning with the proviso that the physician who undertakes to treat middle ear disease must have a practical working knowledge of its anatomy and the anatomy of adjacent structures in the infant, the child and the adult. As Rutherford[7] says, in a particularly excellent article on this subject, the use of antibiotics has become so widespread that many young physicians actually have not been taught the art of cleansing the aural canal, of identifying pathologic changes in the typmanum, of distinguishing between suppurative and nonsuppurative disease, and of performing myringotomy when it is indicated. From personal experience I can testify to the damage heavy-handed physicians can accomplish in the mere act of cleansing the aural canal.

Treatment begins with cleansing the external ear of cerumen and debris, to permit an initial examination of the tympanum. The canal must be kept clean thereafter and open for inspection until the normal physiologic state is restored.

Pain is controlled by aspirin, codeine, or some similar agent, depending upon the necessities of the special case. Heat or cold may be used, depending upon which gives more relief. Neither has any effect on the pathologic process.

Ear drops are not indicated. If they are effective enough to control pain, they are likely to disguise the severity of the infection. This holds for both the old-time phenol and glycerine instillations and the modern proprietary preparations. If an ear is painful enough to require local applications, the indication is even stronger to suspect exudation and to arrange for inspection of the tympanic membrane by a physician capable of performing myringotomy.

In mild cases, no other therapy is needed except for attention to the underlying cause of the middle ear disease, which usually is a blocked eustachian tube. If blockage is caused by an upper respiratory infection, the nose and nasopharynx must be treated to prevent reinfection through the tube, which must be kept patent, for proper ventilation of the middle ear. Direct inflation with a catheter is the procedure of choice, but it is almost impossible in very young children, in whom one must rely on the Politzer method.

The local application of nose drops is falling into disfavor, and we are relying more and more upon vasoconstrictors by mouth. Occasionally, both routes of administration must be used. If blockage of the tube is caused by an allergic rhinitis, antihistaminic therapy should be instituted. If hypertrophied adenoids are responsible, they should be removed at an appropriate time. The general health of the child with otitis media should be maintained at the highest possible level.

Management of Suppurative Otitis Media.—In nonsuppurative disease of the middle ear, careful application of the regimen outlined will almost invariably control the infection promptly. In exudative disease, whether the exudate is serous or suppurative, more active treatment is necessary. Once middle ear disease is diagnosed, myringotomy is indicated under the following circumstances: (1) Severe and continuous pain. (2) Bulging of the tympanic membrane. (3) Loss or reduction of hearing in an acutely painful ear. (4) A high septic temperature not otherwise accounted for. (5) Headaches and pain in the mastoid area. (6) Convulsions in infants. (7) Spontaneous perforation with evidence of inadequate drainage.

Myringotomy should also be performed in all doubtful cases, whether or not the indications just listed are present. There is far less risk in incising the tympanic membrane unnecessarily than in allowing an undetected exudate to persist in the middle ear. There is also considerable merit in the contention of some authorities that if the physician suspects that a patient is unlikely to return for observation, there is all the more reason for performing paracentesis at once whenever it is thought that it might later be required.

Dry therapy is recommended after myringotomy in preference to the use of any solution or medication. The patient must be seen frequently, so that the ear can be cleansed with the suction tip or with dry sterile applicators. He should be shown, or his mother should be shown, how to insert dry cotton wicks to absorb drainage and how to change them before they become saturated. In all these maneuvers aseptic precautions must be observed and manipulations must be extremely gentle, to avoid damage to the tympanum and the introduction of secondary infection.

When the postoperative course is satisfactory, drainage is free and gradually changes from serosanguineous to purulent and then to mucoid. At the same time, the thickened, inflamed membrane becomes paler and thinner and reassumes its normal position. Under these circumstances there is no need for antibiotic therapy. If, however, there has been no marked improvement within twenty-four hours after myringotomy, if the temperature remains high, and if the patient seems toxic, then adjunct therapy is indicated. The particular antibiotic employed is selected according to the type of infection present. It must be given in adequate dosages, and over a sufficiently long period of time. Continuation of the infection is the inevitable result of violation of these principles.

These are clearcut indications for antibiotic therapy. It should not be used in their absence unless there is some equally clearcut indication for its use, such as follicular tonsillitis, pneumonia or rheumatic fever, or nephritis or diabetes in children.

THE STATISTICAL EVIDENCE FOR MYRINGOTOMY

In conclusion, I should like to cite certain statistics which are frankly selective but which I think are worth quoting because they are based on the comparison of like with like. To report and compare cases of otitis media merely as treated or not treated

with antibiotics is totally misleading in view of the fact, already several times emphasized, that this is a self-limited disease and that the great majority of cases will subside spontaneously under simple therapeutic measures.

Page,[8] in 1934, when there were no antibiotics, reported 18 mastoidectomies in 171 cases of middle ear disease. Ten were required in the 134 cases in which myringotomy was performed. Eight were required in the 37 cases in which rupture occurred spontaneously.

Hall,[9] in 1937, just at the beginning of the chemotherapeutic era, reported that of 221 patients submitted to myringotomy, only 28 required mastoidectomy, while of 189 patients who required mastoidectomy, only 28 had had paracentesis.

Butler,[5] in 1948, reported 461 cases of purulent otitis media treated in an army camp and therefore carefully followed up. Although neither chemotherapeutic nor antibiotic agents were used in any case in the series, only 2 patients required mastoidectomy.

Richardson,[10] in 1942, followed 625 patients with otitis media at the Massachusetts Eye and Ear Infirmary from puncture of the drum to complete healing. Only 5.3 per cent required mastoidectomy. Evans,[11] in 1951, reported two series of cases treated at the same institution during the April-July period in 1948. Forty-five patients with acute suppurative otitis media were treated in the outpatient clinic by early puncture supplemented, in a few instances, by chemotherapy. All made good recoveries. Of the 30 patients hospitalized with acute mastoiditis over the same period, all but 2 had been treated with antibiotic agents, usually in insufficient dosages and for brief periods of time, and not one had been submitted to myringotomy. Thirty-six mastoid operations were necessary in these 30 cases.

Rutherford,[7] in the excellent article previously referred to, reported 150 myringotomies performed in her private practice over a two-year period. Thirty-six of the patients had ruptured drums, with unsatisfactory drainage, when they were first seen. In every instance in the series recovery ensued, without recurrences or complications, within a range of four to fourteen days, and in most instances within six to nine days. One hundred and eight of the patients were treated without antibiotic therapy.

Deweese,[6] in discussing this paper, mentioned 26 patients with otitis media who came under his observation after they showed hearing losses. Only 4 patients in the group had been submitted to myringotomy. All the others had sustained spontaneous rupture, which in every instance appeared adequate for drainage but which in every instance left the child, after resolution of the infection, with some residual deafness.

There is no doubt that the incidence of surgical mastoidectomy in otitis media has been materially reduced in recent years. That this is entirely due to the use of the antibiotics seems highly doubtful. Over the same period methods of communication and transportation have improved, so that physicians and hospitals have become easier of access. Acute otitis media has itself decreased, a reduction which can be attributed to the use of the antibiotics in antecedent pneumonia and other severe respiratory infections. Furthermore, the virulence of otitis media varies widely from year to year, and the variety observed in recent years has been unusually mild. The physician who is tempted to attribute the encouraging recent developments in this disease to the widespread use of the antibiotics might bear these practical considerations in mind, and might reflect, also, upon the damage that is still being done by the unwise and indiscriminate use of these very valuable agents.

SUMMARY AND CONCLUSIONS

The widespread and indiscriminate use of antibiotic drugs in otitis media has led to a serious situation. Clinical improvement has masked continuing infection, and complications of various degrees of gravity have ensued. One of the most important is residual deafness. The cardinal surgical

principle that pus must be evacuated by surgical means has been all but forgotten, and myringotomy is omitted in many cases in which it is the essential treatment.

A therapeutic regimen, based on whether otitis media is suppurative or nonsuppurative, is outlined, and the indications for myringotomy are cited. The indications for antibiotic therapy in this disease are also stated.

Statistical evidence to show the value of myringotomy has been adduced.

REFERENCES

1. Maybaum, Jacob L., Snyder, Eugene R., and Coleman, Lester L.: Experiences with sulfanilamide therapy for otogenous infections; with special reference to masking of the clinical course, Arch. Otolaryng. 30:557, 1939.

2. Fowler, Edmund P.: The bacteriology of acute otitis media and its course under new and old methods of treatment, Canad. M. A. J. 44:372, 1941.

3. Dysart, B. R.: Otitis media and complications. Summaries of the bibliographic material available in the field of otolaryngology for 1951 (Progress in Otolaryngology), A. M. A. Arch. Otolaryng. 57:211, 1953.

4. Pulaski, Edwin J.: Surgical infections. Prophylaxis. Treatment. Antibiotic Therapy. Charles C. Thomas, Springfield, in press.

5. Butler, Harry: Low incidence of mastoiditis in a series of cases treated without sulfonamides, Ann. Otol., Rhin. & Laryng. 57:992, 1948.

6. Deweese, David D.: in discussion of Rutherford.7

7. Rutherford, Miriam H.: Proper use of antibiotics in treatment of acute otitis media, Calif. Med. 75:98, 1951.

8. Page, John R.: Bacteriology of acute infections of the middle ear and mastoid. Arch. Otolaryng. 20:447, 1934.

9. Hall, I. Simson: Acute otitis media and mastoiditis: The indications for operation, Edinburgh M. J. 44:298, 1937.

10. Richardson, John R.: Observations in acute otitis media, Ann. Otol., Rhin. & Laryng. 51:804, 1942.

11. Evans, Maurice G.: The treatment of acute suppurative otitis media. The relative merits of chemotherapy and myringotomy in avoiding surgical mastoditis. Ann. Otol., Rhin. & Laryng. 60:638, 1951.

SOME PROBLEMS IN THE THERAPY OF AMEBIASIS*

CHARLES A. JONES, M. D., D. Sc(Med)

NEW ORLEANS

PREVALENCE

On the basis of many surveys of population groups it has been shown[1] that *Endamoeba histolytica* can be found in the feces of approximately 10 per cent of the population of the United States. Consideration of the technical methods involved in arriving at this estimate led Faust[2] to suggest that even this figure may be too low. Perhaps 20 per cent of the general population may be parasitized and in many poorly sanitated and primitive regions the incidence may be even higher. This prevalence of infection, particularly in the South, imposes a twofold responsibility on the physician. The first of these involves the prompt diagnosis of all infected individuals; the second necessitates recognition that the prevalence of amebiasis insures its frequent incidental occurrence with many unrelated disorders.

PRIMARY CLINICAL MANIFESTATIONS

It seems likely that the demonstration of *Endamoeba histolytica* in the feces of an individual means that his tissues have been invaded by the parasite.[3] While the validity of this concept has been questioned, there can be no doubt of the potentiality of parasitic invasion of host tissues whenever this parasite is demonstrated in the feces. When entry into the host tissue by *Endamoeba histolytica* occurs, it is invariably through the colonic mucosa. The favorite sites of colonic lesions are in areas where stasis of the fecal stream occurs; namely, in the cecum, the rectosigmoid and rectum, and the flexures of the colon.[1] These lesions vary from the most minute, unlikely to produce even minor colonic dysfunction, to such extensive destruction that one wonders how the organ is able to maintain its physical much less its functional integrity. Fortunately, the less extensive injury is more likely to occur. Regardless of the degree of colonic injury, the invading amebas may extend beyond the confines of the bowel to contiguous tissues or gain access to distant organs by way of the mesenteric blood vessels, and in both instances, produce serious extracolonic disease.

The colonic location of the primary lesion of amebiasis leads inescapably to the fact that the primary clinical manifestations of the disease are related to colonic dysfunction. And, these manifestations are related to mechanical injury of the organ.

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From the Medical Service, Veterans Administration Hospital, and the Department of Medicine, Tulane University of Louisiana School of Medicine, New Orleans, Louisiana.

The symptomatology then of primary amebic disease is that of an irritable colon.

SYMPTOMS

Like the colonic lesions the symptoms of amebiasis can be most inconspicuous or most impressive. Usually, by employing appropriate and adequate methods of clinical examination including fecal analysis (microscopic, bacteriologic and chemical), sigmoidoscopic and radiographic examination, it is possible to show that the character and severity of the colonic symptoms are related to the nature, extent and location of the colonic lesions.

Experience indicates that less than 3 per cent of patients with amebiasis present frank dysenteric symptoms. The well known syndrome of the frequent passage of small mucosanguineous ("currant jelly") stools, accompanied by localized or generalized abdominal pain and tenderness and frequently by tenesmus is classical. In many such patients it is easy to demonstrate colonic lesions by sigmoidoscopic and radiographic examination, and the trophozoites of *Endamoeba histolytica* can be found readily by microscopic examination of the excreta. Fulminating rapidly fatal cases occur, but in temperate climates the average patient with acute dysenteric symptoms presents a remarkable paucity of systemic manifestations such as an impressive increase in body temperature, prostration, leukocytosis or anemia. The presence of these systemic manifestations should lead one to suspect the development of complicating factors. Occasionally the major inconvenience experienced by the patient is the frustrating necessity of remaining near a toilet. When long continued, the process will inevitably lead to exhaustion, dehydration, anemia, weight loss and other serious consequences resulting from chronic colonic disease. Unlikely as it seems, an occasional patient with neglected dysentery is still seen. The following is an illustration of such a patient.

A. B., a 60 year old white man, had suffered intermittent bouts of bloody diarrhea and asthma for some twenty years. His asthma had been well treated but little attention had been paid to the dysentery. A few days before admission to the hospital he became gravely ill with severe sanguineous rectal discharge. The patient died in shock a few hours after admission. The diagnosis of amebiasis was readily established at the time of admission by demonstration of trophozoites of *Endamoeba histolytica* in the bloody fecal material. Postmortem examination showed a short, markedly thickened colon. Extensive ulceration was present from the terminal ileum to the rectum. The colon was full of blood. Parasites were numerous in these tissues.

The larger group of patients infected with *Endamoeba histolytica* do not present frank dysentery and it is this group that constitutes the major problem of amebiasis. The symptoms described among these patients are varied and numerous. However, even in this group, frequently the symptomatology can be related by appropriate methods of investigation to the nature and extent of the colonic lesions. The symptoms definitely attributable to colonic amebiasis also result from colonic dysfunction, which may be manifested by localized or generalized abdominal pain of variable severity associated with the act of defecation. Constipation is frequent; episodic bouts of diarrhea and constipation may be prominent; and, rarely, severe watery diarrhea may be persistent. Many patients present no symptoms at all.

COMPLICATIONS

Serious complications are more likely to be encountered in frankly dysenteric amebiasis. The often inconspicuous symptoms of the non-dysenteric patient, however, do not eliminate the liability for developing the serious consequences of the disease. The percentage of the nondysenteric patients who develop these complications is small, but the prevalence of the infection assures the development of a number of these serious complications. In the absence of prominent colonic manifestations to direct attention to the possibility of amebic infection, many of these important complications go unrecognized. The key to their detection and proper assessment resides in always thinking of the possibility of amebic etiology. The following illustrates this point.

M. T., a 57 year old Negro, was admitted to the hospital with no antecedent history of colonic disorder. Approximately two months before admission he began to experience serious organic difficulty manifested by localized pain in the right up-

per quadrant of the abdomen, fever, chills and weight loss. Barium studies of the colon demonstrated a fistulous tract from the hepatic flexure of the colon and extraluminal barium in the subhepatic area. Cysts of *Endamoeba histolytica* in the feces and a positive complement fixation test for amebiasis suggested an amebic perforation of the colon with subhepatic abscess formation. Under treatment with emetine hydrochloride symptoms vanished and the fistulous tract disappeared. Following further treatment with intestinal amebacides, he has remained well for over a year since completion of therapy.

Another illustration of this point is presented by the following patient's record.

P. A. M., a 34 year old white man, had never had dysentery but had intermittent bouts of diarrhea and constipation and associated localized pain in the right lower quadrant of his abdomen. His appendix had been removed. His hospital admission was prompted by an attack of severe diarrhea, cramping and localized lower right quadrant pain. The stools showed cysts of *Endamoeba histolytica*. The cecum on radiographic examination presented a deformity which was interpreted to represent cecal involvement with amebiasis. The remainder of the colon was negative. Under treatment with emetine hydrochloride, 7-chloro-4-[4 diethylamino-1-methyl butylamino] quinoline (chloroquine), p-carbamino -phenylarsonic acid (carbarsone), and idoxy quinoline sulphonic acid (chiniofon), symptoms improved but the cecal deformity did not entirely disappear. The filling defect and extreme irritability were replaced by a deformity which probably represented scarring of this portion of the colon. Follow-up over the past four years has shown no recurrence of the amebiasis and aside from minor degrees of colonic dysfunction, this patient has remained well.

Perhaps this patient's record justifies the assumption that he had an amebic granuloma of the cecum. These granulomas which represent reparative exuberance on the part of the colon in response to the injury produced by *Endamoeba histolytica* can be demonstrated readily even in patients without serious dysenteric symptoms. A few years ago Silverman and Leslie[4] called attention to the necessity for differentiating these lesions from malignant diseases of the bowel. Favorite sites for the development of these granulomas are in the cecum and in the rectum but they may occur anywhere in the bowel. When the lesions are located in the rectum and the lower sigmoid, biopsy is the only sure method of differentiation of these lesions from carcinoma. The presence of a filling defect in the cecum or elsewhere on radiogdaphic examination in the presence of amebiasis suggests a granuloma, but absolute differentiation without biopsy is impossible. A therapeutic trial with emetine hydrochloride and careful observation of the patient may be employed but in many instances direct surgical approach is required. The following case illustrates the necessity for care in making the assumption that a cecal radiographic defect is owing to the presence of an amebic granuloma even in the presence of amebiasis.

J. A. B., a 41 year old white man, was hospitalized because of fatigue and weakness. There were minimal symptoms of bowel disturbance. The stools were always soft and mushy and occasionally there were bouts of diarrhea. Radiologic examination showed a filling defect in the cecum. Laboratory examinations demonstrated a profound anemia. Trophozoites of *Endamoeba histolytica* were numerous in the feces. A therapeutic trial with emetine hydrochloride had no effect on this lesion. At exploration a colloid carcinoma of the cecum was found. Amebae were demonstrated in the exudate over the carcinoma and in the bowel wall elsewhere.

Of more importance because of the gravity of the complication is the disease produced in distant organs which are invaded by *Endamoeba histolytica*. This is particularly true when the colonic manifestations of the disease are either absent or insignificant. The most frequent complication of this type encountered is, of course, the amebic hepatic abscess. DeBakey and Ochsner[5] in their survey of 263 cases of amebic abscess of the liver call attention to the fact that the paucity of colonic manifestations in the presence of frank amebic hepatic abscess has been insufficiently emphasized. Criteria for establishing a diagnosis of amebic hepatic abscess are definite. The important aspect in the problem is that it should always be thought of in the presence of right upper quadrant abdominal and/or lower right lung signs and symptoms, even in the absence of colonic dysfunction. Experience in the past seven years with 47 patients with amebic hepatic abscess who have been hospitalized has shown that few of them have been diag-

nosed prior to hospitalization. Valuable time and therapy is wasted, primarily, because an amebic complication is not considered. The illnesses of these patients have masqueraded as a variety of diseases such as pneumonia, gallbladder disease, cholangitis, coronary thrombosis, heart failure, and tumors of the liver. The folowing patient's record will serve to illustrate some of the difficulties in making the diagnosis of amebic hepatic abscess and the serious consequences which result from the disease.

G. M., a 38 year old white man, came to the hospital with chills, fever, and pain in the right upper quadrant of the abdomen. The physician who sent him to the hospital thought that he had malaria. No parasites were found in the blood and many studies failed to demonstrate a specific cause for his fever. Careful questioning failed to produce any symptoms of colonic disorder. The exquisite right upper quadrant pain and elevated and paralyzed right diaphragm led to a working diagnosis of a hepatic abscess. An extraperitoneal exploration of the liver was performed. Inspissated creamy pus was obtained from numerous small abscesses in the right lobe of the liver. This pus was sterile and no amebas were found. The possibility of an amebic hepatitis was considered at this time and a course of 12 grains of emetine hydrochloride was given. His signs and symptoms of disease in the right upper quadrant diminshed coincident with the surgery and the administration of emetine hydrochloride. Because of the multiplicity of the small abscesses and the presence of creamy pus it was felt that the best diagnosis was that of a suppurative cholangitis.

One month after his discharge he again developed fever, cough, pain in the right upper quadrant and at this time associated with right shoulder tip pain. Radiographic and fluoroscopic examination again showed elevation and paralysis of the right diaphragm. Cysts of *Endamoeba histolytica* were demonstrated in the stools on this occasion and it was felt certain at this time that this patient had an amebic abscess of the liver. After a preliminary twelve-day course of emetine hydrochloride, needle aspiration of the liver was undertaken. Creamy pus in small amounts was aspirated but because of the continuing encroachment of the abscess on the right lung and the failure of aspiration to evacuate the abscess, it was decided to drain this patient surgically. Through an extraperitoneal surgical approach a large solitary abscess containing much creamy pus was evacuated. *Endamoeba histolytica* trophozoites were subsequently found in the discharge from the draining sinus. The abdominal wall about the sinus became necrotic; the process extended into the pleural cavity; a bronchopleural fistula developed; and despite repeated but probably inadequate courses of therapy, death occurred about five months after admission. At postmortem examination, in addition to the lesions previously mentioned, an amebic abscess of the brain was demonstrated.

PERSISTENCE OF SYMPTOMS

In contradistinction to those patients illustrated in the foregoing portion of this paper whose symptoms can be related to organic changes, there are a large number in whom symptomatology is far more impressive than any demonstrable organ damage. In addition to the colonic manifestations many of these patients exhibit a wonderful number of nonspecific complaints. Anorexia, nausea, pyrosis, headache, weight loss, arthritic pains, lack of ambition, impotence, chronic fatigue, inability to concentrate, somnolence and insomnia, as well as various vasomotor disturbances (excessive sweating, flushing, dermographism, bradycardia and tachycardia) have all been attributed to infection with *Endamoeba histolytica*. These general symptoms are difficut to relate to the presence of injury to the colon which to a greater or less degree is presumed to exist in patients with amebiasis. A most distressing feature is the large number of these individuals who fail to obtain symptomatic relief after successful antiamebic therapy.

Following the acute dysenteric form of amebiasis in which definite colonic lesions can be demonstrated, not infrequently, some patients present residual symptoms or recurrences of symptoms which defy explanation. This persistence of symptoms in the patients with and without demonstrable structural lesions in the colon or elsewhere is a serious problem in therapeusis. The lack of successful relief of symptoms leads to the necessity of inquiry into the reasons for their persistence.

In the following discussion of the reasons why symptoms may persist after successful treatment of amebiasis, it is presumed that certain proprieties in making a diagnosis of the initial infection, a relapse or reinfection with *Endamoeba histolytica* have been observed. It is perfectly obvious that a mistake in diagnosis will lead to fruitless therapy. Many misdiagnoses of amebic disease

are based upon misidentification of certain harmless coprophages. The ones commonly found in the stool are *Endamoeba coli*, *Endolimax nana*, *Iodamoeba buetschlii* and *Diendamoeba fragilis*. Frequently mistaken for cysts of *Endamoeba histolytica* are such artefacts as macrophages, yeasts and *Blastocystis hominis*. Of equal importance to the recognition of these various confusing elements is the necessity of adequate examinations to determine the presence of *Endamoeba histolytica*. This requires multiple stool examinations before and after purgation, the employment of stool concentration techniques (we have preferred the zinc sulfate centrifugal flotation method), the resort to microscopic examination of material directly aspirated from the bowel or scrapings of the colonic mucosa obtained during sigmoidoscopic examination when necessary. When identification of a suspicious object is in question resort to cultural and special staining techniques may be required.

Recurrences of amebic infection after treatment do occur, it is true, and account for recurrent symptoms but should be diagnosed only on the basis of demonstration of the causative organism in the feces. Most reports.[6, 7, 8] of patients treated with antiamebic drugs, currently popular, indicate that the cure rate is high and relapse rate low. Our own experience agrees with these reports. Consequently our inquiries must be directed elsewhere to account for the large number of patients with symptomatic relapses in the absence of demonstration of the parasitic infection.

Another explanation for persistent or recurrent symptoms after successful antiamebic therapy is that the colon has been so severely injured by the amebic infection that it is unable to perform its normal function. Such a colon is that of A. B. presented earlier.

It was pointed out earlier that amebic infection will occur coincident with many other unrelated affections. Diagnostic surveys of patients who have had persistent symptoms after eradication of *Endamoeba histolytica* have shown that the symptoms could be related better to the presence of other concomitant diseases than to a nondemonstrable relapse of the parasitic infection. Encountered in these surveys have been malignant disease of the colon, diverticulitis, nonspecific ulcerative colitis, cicatrizing stenosing enterocolitis (Chron's disease), strongyloidiasis, relapsing pancreatitis and a host of other disorders. A similar experience with persistent symptoms following treatment for amebiasis was recently reported by Dowdell, Roth and Shumway.[9]

A 40 year old white man had persistent episodic attacks of lower left quadrant pain and nonbloody diarrhea following successful treatment of amebic dysentery. Many studies indicated the absence of amebiasis and investigation of the colon showed a marked diverticulitis in the rectosigmoid area of the colon to account for these episodic recurrences.

PSYCHOSOMATIC FACTORS

It is well to remember that it is not always justifiable to assume that because *Endamoeba histolytica* can be found in the stools that all symptoms which a patient has are related to this infection even though it is probable that such a demonstration does indicate that at least the superficial layers of the intestine have been invaded. This is particularly true with regard to the nonspecific symptoms which are detailed above. It is probable even that constipation, alternating constipation and diarrhea, or persistent diarrhea, may not in every instance be owing to the presence of the parasite. The important demonstration of this fact resides in the failure to relieve symptoms by effective therapy. Many patients of this sort have been treated and retreated many times over a period of years with or without the demonstration of a parasitological recurrence. Such persistence with therapy, many times directed at a nonexistent etiologic agent, is frequently harmful.

As an approach to this aspect of the problem a study[10] of a small group of individuals by means of projective psychologic and interview techniques demonstrated that some of these patients are indistinguishable, on the basis of diagnostic criteria used, from a group of dependent neurotics. Our studies are not sufficiently large to justify

sweeping conclusions, but they do indicate that this is a fruitful line of approach to this vexing problem. The readiness with which patients in this group accept the diagnosis of amebiasis and the avidity which they cling to it through repetitious courses of therapy which do not relieve symptoms can be taken as support of the hypothesis that at least a part of the symptomatology is personality conditioned. An organic diagnosis furnishes to these patients a ready explanation for all personal inadequacies and failures. And like all dependent neurotics it relieves them of any personal responsibility in regaining their health. In their failures they frequently resort to the well known infantile pattern of under-production or over-production of feces, perhaps as a symbolic substitute for accomplishment. The other symptoms are well known features of somatization reactions.

This type patient is exemplified by the young lawyer who develops diarrhea and weakness on almost every occasion he has to go to trial. His disease is incapacitating and has almost impoverished him. Early demonstrable amebiasis has disappeared but his pattern of behavior still exists.

Another example is found in a radio station operator who had amebiasis and whose weakness, fatigue, and recurrent episodes of diarrhea in the face of business stress has necessitated transacting most of his business from bed even though no organic basis for this disability can be determined.

Still another example is a 31 year old salesman who had amebiasis but whose somatic preoccupations at the present time do not permit a successful pursuit of his business.

Therapy in these patients is difficult since the symptoms may be based in deep-seated personality disorders, but in many instances the physician can, with reassurance, encouragement, and education, give the patient some insight into the mechanism by which his symptoms are produced. Occasionally, some of his patients may be able to function efficiently and achieve a fair amount of happiness in spite of symptoms.

Nothing in the foregoing should be interpreted as indicating that patients without obvious mechanisms for production of their symptoms in the presence of amebic infection, should be neglected in terms of vigorous pursuit of therapy to the point of eradication of the parasite. The suggestion is being made only that when adequate therapy has eliminated the parasitic infection, recurrent symptoms need not depend upon an undiscoverable recurrent infection. It should be remembered that recurrences of amebiasis are no more difficult to diagnose parasitologically than the initial infection. When other causes exist, including non-organic ones, appropriate therapy may be more gratifying than the persistent pursuit of antiamebic therapy.

It is necessary to make a brief comment about adequate therapy. Recent reports have indicated the efficacy of certain antibiotics, particularly oxytetracycline ("terramycin") in intestinal amebiasis with which our own experience is in agreement. The exhibition of this agent in extracolonic amebiasis is noneffective and may result in disastrous consequences as illustrated by the following.

A 65 year old white man had chills and fever for 3 weeks. Treatment with penicillin, aureomycin and sulfonamide drugs in unknown amounts had no beneficial effect. During the 10 days prior to his death 15 grams of oxytetracycline ("terramycin") were administered and at autopsy a huge amebic abscess of the liver was found as well as a granuloma of the cecum. Each of these contained easily demonstrable trophozoites of *Endamoeba histolytica*.

When extracolonic complications are present or suspected, adequate therapy with emetine hydrochloride and/or 7-chloro-4-[4 diethylamino-1-methyl butylamino] quinoline (chloroquine) should be employed always. These two drugs, while extremely effective in extracolonic amebiasis, are relatively noneffective colonic amebacides. The administration of an effective intestinal amebacide should always follow or accompany therapy with either of these. Therapy should be pursued to the point of eradication of the parasite. The drugs which we have employed effectively have been: 5,7-diiodo - 8 - hydroxyquinoline (diodoquin);

iodoxy-quinoline sulphonic acid (chiniofon); p-carbamino-phenylarsonic acid (carbarsone); bismuth glycolylarsanilate ("milibis"); and oxytetracycline ("terramycin").

SUMMARY

The high incidence of amebiasis and the likelihood of its occurring coincident with nonrelated affections has been discussed.

The primary manifestations of amebic disease are colonic in origin, and in many instances appropriate study will relate the colonic injury to the clinical symptomatology. Occasionally complications which include extracolonic manifestations of amebic disease will occur. The key to their recognition is to suspect them even when the colonic aspects of the disease are absent or inconspicuous.

An important complication of amebiasis is the persistence of symptoms following treatment, which may be owing to recurrent infection, rarely to extensive injury of the colon, more frequently to concomitant other organic disease, and sometimes related to a personality conditioned somatic response. Adequate therapy of both the amebic infection and concomitant disorders, either organic or psychic, is required for the successful management of these patients.

Therapeutic agents so effective in the treatment of intestinal amebiasis, including antibiotics, are ineffective in the treatment of extracolonic amebic disease. The extracolonic amebic lesions should be treated with adequate amounts of 7-chloro-4-[4 diethylamino-1- methyl butylamino] quinoline (chloroquine) and/or emetine hydrochloride first, and in every instance adequate treatment with an effective intestinal amebacide should follow.

REFERENCES

1. Craig, C. F. and Faust, E. C.: Clinical Parasitology, 5th Edition, Philadelphia, Lea & Febiger, 1951.

2. Faust, E. C.: The prevalence of amebiasis in the Western Hemisphere. Am. J. Trop. Med., 22:93 (Jan.) 1942.

3. Craig, C. F.: The Etiology, Diagnosis, and Treatment of Amebiasis, Baltimore, Williams & Wilkins Company, 1944.

4. Silverman, D. N. and Leslie, A.: Intestinal tumors of dysenteric origin. J. A. M. A., 133:994 (Apr. 5) 1947.

5. DeBakey, M. E. and Ochsner, A.: Hepatic amebiasis, Surg., Gynec. & Obst., 92:209 (Mar.) 1951.

6. Frye, W. W., Brooke, M. M. and Weinstein, P.: Antibiotics in the treatment of acute amoebic dysentery, Ann. New York Acad. Sc., 55:1104 (Dec. 30) 1952.

7. Martin, G. A., Garfinkel, B. T., Brooke, M. M., Weinstein, P. P. and Frye, W. W.: Comparative efficacy of amebacides and antibiotics in acute amebic dysentery, J. A. M. A., 151:1055 (Mar. 28) 1953.

8. Sanchez Vegas, J.: Evaluation of the newer amebacides, J. A. M. A., 151:1059 (Mar. 28) 1953.

9. Dowdell, W. F., Roth, H. P. and Shumway, N. P.: Follow-up study of clinical results of anti-amebic therapy, Am. J. M. Sc., 225:245 (Mar.) 1953.

10. Yonmans, C. L., Jr.: Thesis submitted to the Graduate School of Tulane University (May) 1951.

EOSINOPHILIA IN CHILDHOOD CAUSED BY VISCERAL LARVA MIGRANS*

JOHN H. DENT, M. D.
G. M. CARRERA, M. D.
NEW ORLEANS

INTRODUCTION

In a previous publication,[1] a syndrome designated as visceral larva migrans was described, and some of the salient features of its pathogenesis and pathology were discussed. This term was chosen because it denotes the aimless migration of the larvae of certain round worms through the human viscera, although the particular species in question is not a definitive parasite of man. In that study, the finding of a larva of *Toxocara canis*, the dog ascarid, in a liver biopsy of one of three children with similar symptomatology, clinical history, and peripheral blood eosinophilia, led to the postulation of a likely explanation for this syndrome; namely, that the etiologic agent is probably the larval stage of nematodes usually parasitic in lower animals but which are capable of invading and damaging the human tissues and stimulating an eosinophilic response in the circulating blood. The condition is the visceral counterpart of the well known entity cutaneous larva migrans in which skin penetrating larvae of certain hookworms produce typical dermatological lesions.

The cosmopolitan distribution of *Toxocara canis*, and the close association of children with dogs, immediately suggested that this type of atypical parasitism may be relatively frequent and that it may, in fact, ac-

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From the Pathology Department, Tulane School of Medicine, New Orleans, La.

count for numerous cases of chronic eosinophilia in children. A careful study of the clinical and pathologic material at hand has borne out this original supposition.

Because chronic eosinophilia is a prime feature of this syndrome, it is pertinent to discuss it at this point. An elevated eosinophil count in the peripheral blood is a fairly common finding in an active pediatric practice and one which is often difficult to explain. More frequently than not, eosinophilia comes as a distinct surprise to the clinician when it is discovered on routine blood studies. Often, extensive clinical and laboratory investigations may fail to disclose any adequate explanation of the eosinophilia.

Some generalizations concerning the behavior of the eosinophil are well established. For example, the total number of circulating eosinophils decreases spontaneously at the onset of most acute infections and in time of stress. Recently, considerable interest has been aroused by the artificial depression of the circulating eosinophils using adrenal steroids and corticotropins. The specific functions of the eosinophil still remain a mystery.

Numerous diseases, apparently unrelated, are characterized by eosinophilia. (See Table 1) A consideration of the causes listed, reveals the fact that the most pronounced eosinophilias occur in infections with animal parasites which are actual tissue invaders.

TABLE 1

CAUSES OF EOSINOPHILIA

Disease	Degree of Eosinophilia
1. *Allergic Disorders*	Slight to moderate
Bronchial asthma	
Urticaria	
Hay fever	
2. *Skin Diseases*	Slight to moderate
Phemphigus	
Exfoliative dermatitis	
Dermatitis venenata	
3. *Certain Infections*	Slight to moderate
Scarlet fever	
4. *Hodgkin's Disease*	Slight to moderate
5. *Miscellaneous Diseases*	Slight to moderate
Sydenham's chorea	
Erythema multiforme	
6. *Parasitic Infections*	Moderate to severe
Trichiniasis	
Schistosomiasis	
Filariasis	
Ancylostomiasis	
Strongiloidiasis	
Ascariasis	
Visceral Larva Migrans	Moderate to severe

CLINICAL OBSERVATIONS

Our direct knowledge of visceral larva migrans is derived in part from 7 clinical cases† with 2 confirmatory liver biopsies and 1 complete autopsy,‡ and in part from material submitted for consultation from 3 other cases in which a specific diagnosis has been established, and 3 additional cases in which the larvae have not been identified, but which showed typical histologic lesions.

In our experience, visceral larva migrans occurs in young children, usually from 18 months to 6 years of age—an age range within which children are most likely to swallow dirt. The symptoms are protean and consist of intermittent fever, malaise, pallor, loss of appetite, irritability, failure to gain weight, and muscle aches and pains. The children in our series have been "dirt-eaters" and there has been close association with pets, especially dogs. Early in the illness, a distressing cough may be present for several weeks. In most of our cases, there has been an impetiginous type of skin rash that is confined principally to the trunk and lower extremities, and which consists of small intensely pruritic ulcerated areas. Bouts of nausea and vomiting generally accompany the febrile episodes. These episodes usually last from a week to ten days, with a daily elevation of temperature to about 105° F. The temperature subsides by lysis. During the next week or two the patient may show an occasional moderate rise in temperature up to about 103° F. There is a tachycardia in proportion to the elevated temperature. The patient appears to be extremely languid. Examination of

†From The Children's Clinic, 3439 Prytania Street, New Orleans, La.

‡To be reported in detail elsewhere.

the sclerae may reveal a slight degree of jaundice. The liver and spleen may be enlarged, and some abdominal distention is usually present. Examination of the chest may reveal findings suggestive of a bronchitis or even a bronchopneumonia. X-ray studies of the chest at this time will usually reveal diffuse patchy areas of pneumonitis, suggesting a bronchopneumonia, and even, in some instances may resemble miliary tuberculosis. Frequently, the test for occult blood in the stools has been reported positive. Examination of the blood has always shown a marked eosinophilic leukocytosis in all our patients, the total leukocyte count ranging from 15,000 to 80,000 cells per cu. mm. with an eosinophilia which fluctuates between 30 per cent to 80 per cent at different times even in the same patient. Most of the eosinophils are mature, although eosinophilic myelocytes are often encountered. A normocytic hypochromic anemia is the rule. The degree of anemia parallels closely the severity of the systemic symptoms. The anemia is somewhat refractory to treatment, but generally a reticulocyte response will be noticed following the administration of therapeutic amounts of iron. The bleeding and coagulation times and the sedimentation rate are usually within normal limits. In two cases a marked increase in the number of platelets in the peripheral blood was noticed and in one of these hyperplasia of the megakaryocytes of the bone marrow was found.

Frequently, children who present the above clinical picture reveal behavior disorders and are emotionally unstable. One patient, during the height of the illness presented symptoms identical with those of petit mal. This episode of petit mal lasted only a few weeks, and has not recurred after a period of approximately two years. Neurological examinations and eyeground studies have yielded no essential information. In one case which died and came to autopsy, the larvae of *T. canis* were recovered from crushed preparations of brain tissue. Histologic study of sections of this child's brain showed numerous glial nodules, presumably along the paths of the larvae. This case suggests that more careful consideration should be given to the cerebral manifestations and the emotional and behavior disorders of these children.

The clinical picture described above corresponds to massive infections with these vigorous larvae. Just as striking, and more difficult of explanation, is the apparently healthy child who reveals nothing abnormal except a rather pronounced eosinophilia and a mild hypochromic normocytic anemia. Generally, these children have no specific complaints other than frequent and severe bouts of "bronchitis." The growth and development in both categories is not markedly abnormal. A probable explanation for the protean symptomatology lies in the fact that as far as is known, these larvae are able to penetrate and live for some time within any soft tissue or organ of the body. Apparently, the degree of eosinophilia reflects, in a broad sense, the quantitative aspect of the parasitic infection and the concomitant allergic response of the host. A study of our cases indicates that the more prolonged and massive infections are likely to show the highest eosinophilias and the most pronounced symptomatology; whereas, relatively light infections may be manifested only by an eosinophilia. The eosinophilia of the peripheral blood has been found to be a reflection of a similar response in the bone marrow.

PATHOGENESIS

Embryonated eggs are usually found in moist dirt contaminated with dog's feces. After being swallowed by the child, the larvae hatch and penetrate the mucosa of the small intestine in a matter of hours. Migration, believed to be by way of the portal blood, the lymphatics, and the tissue spaces, then starts. Most larvae go to the liver where they rupture sinusoids and hepatic cell cords, breaking the reticulum fibers and producing along their tracts, areas of necrosis and hemorrhage. The larvae move backwards as well as forwards, with twisting serpentine motion. Those that by-pass the liver may reach the lungs by way of the pulmonary arteries, although direct migration through the tissues is also a possibility.

Once in the lungs, they may either penetrate the bronchial tree to go up the trachea and be swallowed again, or go by the pulmonary veins to the heart and the systemic circulation to any other organ or tissue in the body. Those that are reswallowed, presumably penetrate the intestine once more and repeat the migratory pathways.[2] Larvae of *Toxocara canis* may live in abnormal host's tissues for months but are eventually encapsulated by host's fibrous tissue and die. Figures 1 and 2 show the differences be-

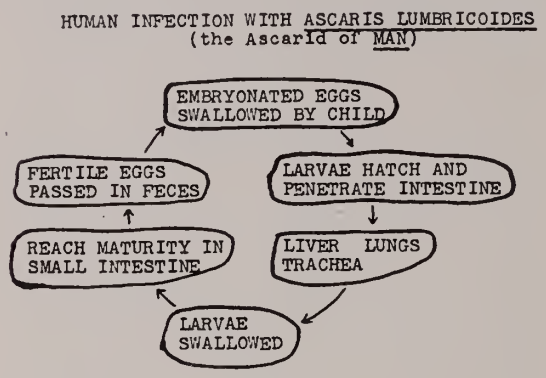

Figure 1

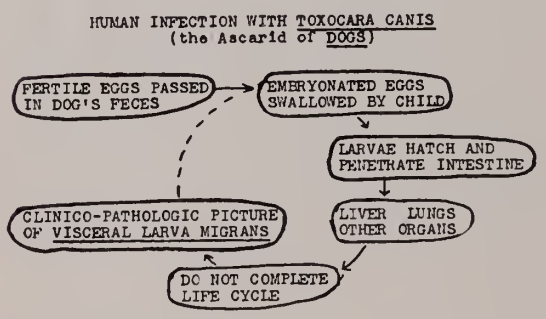

Figure 2

tween human infection with *Ascaris lumbricoides* and *Toxocara canis*. It is important to observe that while infection with *Ascaris lumbricoides* can eventually be diagnosed by parasitological examination of the feces, for the ova or the adult worms, no such thing is possible in the case of infection with *Toxocara canis*, in which the worms never exist in the human intestine as egg-laying adults and hence parasitological examination of the feces is necessarily non-informative.

PATHOLOGY

Lesions produced by the larvae of *T. canis* may occur in the various organs or tissues to which they migrate and have been observed, so far, in liver, lungs, brain and kidney. Most of the lesions, in our cases, occurred in the liver and lungs, which are the first natural barriers in the larval migratory pathway. In the organs in which the parasites were found at autopsy, as well as in the liver biopsies, the larvae and their tracts are surrounded by a variable granulomatous inflammatory reaction apparently depending, in character and intensity, on the age of the lesion and the specific host tissue reactivity. The early lesions consist of a central zone of tissue destruction surrounded by inflammatory cells, mostly eosinophils and neutrophils. A larva may or may not be present at a given level of the tortuous tract, but when present, it usually occupies a central position in the area of necrosis if observed in cross section, but if followed in serial sections its position is almost invariably at the advancing end of the tract. Thus, it is apparent that one larva, because of its continuous active movements, may be responsible for a great deal of tissue destruction. Since the larvae move away from the lesions which they constantly produce, it is not surprising that they are difficult to find in biopsy material except when meticulously searched for in numerous serial sections. The older lesions, or those around degenerating larvae, show, in addition, large foreign body giant cells, epithelioid cells, macrophages and lymphocytes around the central area of necrosis. Charcot-Leyden crystals have been observed in some lesions. A peculiar eosinophilic fibrinoid material is occasionally observed radiating from the necrotic center of the lesions. Figures 3 and 4 show the morphologic appearance of the larvae as seen in tissue sections, and the character of the tissue reaction. A detailed study of the morphology of the larval stage of *T. canis* has been recently done at Tulane University by Nichols.[3]

PROGNOSIS

The ultimate prognosis is good in most cases. The parasites, however, may remain active and the patient continue to be symptomatic for months. As already indicated,

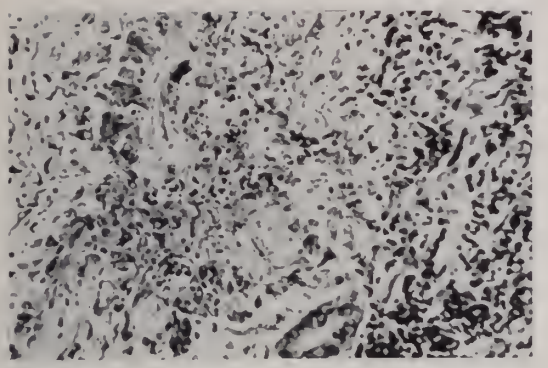

Figure 3. Anterior end of *T. canis* larva in granulomatous lesion of liver. (H & E Ca. 220 x).

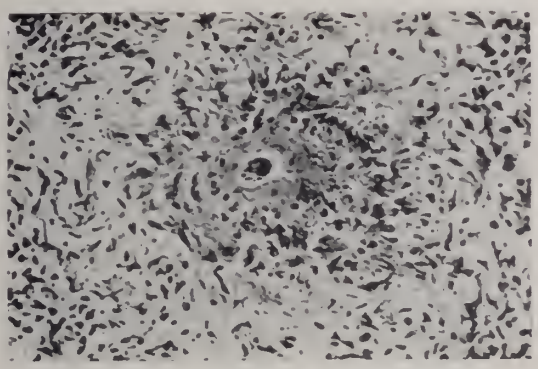

Figure 4. Cross section through midportion of *T. canis* larva surrounded by epitheloid cells, leukocytes, and fibroblasts. This lesion is probably older than that seen in figure 3 (H & E Ca. 220 x).

the morbidity is probably directly proportional to the number of ova ingested. The continued ingestion of heavily polluted soil by "dirt-eating" children results in a massive infection, and the final outcome may even be fatal, although in the cases we have known there has always been some other factor that precipitated death terminally. Even children with massive infections may be expected to recover, if the source of contamination is removed. It is conceivable, judging from the character of the tissue damage, that irreversible changes may be produced in certain organs. Not enough is known about the central nervous system lesions to warrant speculation about their probable significance.

DIAGNOSIS

Since "dirt-eating" children are apt to ingest ova of other and more familiar parasites as well, the presence of infections with ascaris, whipworm, or pinworm, for example, should not be taken as the specific explanation for a chronic eosinophilia of high level. Mixed infections are the rule. On the other hand, the failure to find parasitic ova in the stools does not rule out visceral larva migrans due to *Toxocara canis or* to some other similar parasite of lower animals whose larva is a potential invader of human tissue, but which will not complete its life cycle and mature in man, an abnormal host. The failure to find parasitic ova in the stools of such patients has led, in the past, to such diagnoses as Loeffler's syndrome and tropical eosinophilia. Even more suggestive is the fact that when several children of the same family all have eosinophilia which cannot be accounted for, the term "familial eosinophilia" is the usual diagnosis. In two of the families of children with positive liver biopsy the siblings also had eosinophilia. If these two children had not had severe enough infections to warrant liver biopsies in search for the cause of their illness, familial eosinophilia would have sufficed as a reasonable explanation.

The pulmonary manifestations are clinically indistinguishable from those of Loeffler's syndrome and tropical eosinophilia.

The diagnosis must, of necessity, be clinical if there is a suggestive history, compatible physical findings, and chronic sustained eosinophilia that cannot be readily explained otherwise. No skin or serologic tests are as yet available.

Liver biopsy, when justified, may be the only means of establishing a definitive specific diagnosis by the finding and identification of the larvae. This may prove to be, as it has been in all our cases, a tedious and time - consuming procedure and one for which a highly qualified helminthologist must be available for the actual species identification of the larvae. Examination of crushed or partially digested fresh tissue and of stained serial sections may be necessary.

The gross appearance of the heavily infected liver at laparotomy is highly characteristic. The capsule is smooth and glistening and the organ is markedly congested. Against this dark reddish purple background, numerous discrete white areas from

pinpoint to 1 to 2 mm. in diameter are strikingly visible. Liver biopsy should consist of an ample portion, at least 1 or 2 centimeters in main dimension.

TREATMENT

There is, as yet, no specific treatment. In our cases, vitamins, iron, and short courses of antibiotics have helped symptomatically. Cortisone will usually ameliorate the symptoms and cause a temporary decrease in the absolute and relative numbers of circulating eosinophils. Hetrazan has been used in large doses without demonstrable permanent beneficial effects. Arsenicals, which are said to produce good results in tropical eosinophilia, have not been tried by us, but should be worthy of consideration in the future.

It is imperative, of course, to isolate the child from contaminated pets and polluted soil in which it is impossible, from a practical standpoint, to kill the ova. The treatment of infected animals should be done in cooperation with a veterinarian, but when absolute control is doubtful, animals should be barred from the household and extreme care should be taken to avoid contamination of yards and play rooms by strays or neighbor's animals or pets.

SUMMARY AND CONCLUSIONS

When the cause of eosinophilia in children cannot be specifically accounted for by well known etiologic factors, such as allergy or orthodox parasites, one must consider the possibility of visceral larva migrans caused by some species of nematodes normally parasitic in lower animals. It is suggested that the larvae of *Toxocara canis*, the ascarid of dogs, is probably the chief offender. Children become infected by swallowing dirt contaminated with feces of a worm-bearing dog, frequently his own pet. The larval parasites, after penetrating the intestinal mucosa, migrate through the organs and tissues, producing typical lesions and stimulating pronounced eosinophilia of the bone marrow and peripheral blood. Since thes larvae do not complete their life cycle in man, an abnormal host for them, egg-laying adult worms of this species are not to be found in the human intestine, therefore the specific diagnosis cannot be made by fecal examination. Liver biopsy is, at present, the only means of establishing the exact diagnosis. As yet, no specific treatment is available. Awareness of the mode of infection, with adequate prophylaxis against subsequent exposures is the best form of therapy, allowing the patient to outlive the present infection.

The syndrome of visceral larva migrans is presented as a problem of considerable moment to physicians, veterinarians, and public health officials, as well as to parents and children.

REFERENCES

1. Beaver, P. C., Snyder, C. H., Carrera, G. M., Dent, J. H. and Lafferty, J. W.: Chronic eosinophilia due to visceral larva migrans. Report of three cases, Pediatrics 9:7, (January) 1952.

2. Beaver, P. C.: Personal Communication.

3. Nichols, R. L.: The Morphologic and Diagnostic Characters of Toxocara SPP. Graduate Thesis. Tulane University, April 1952. New Orleans.

ADVANTAGES OF A STATE SYSTEM FOR MEDICOLEGAL INVESTIGATION*

STANLEY H. DURLACHER, M. D.†

NEW ORLEANS

The earliest records of activity of a coroner date to the twelfth century in England. The coroner at that time was a knight of high position whose chief duties were somewhat like a treasurer and tax collector. He was concerned with the properties of the king, to see that the taxes were collected, and that the king obtained his share of royal fish and whales that were swept up on the coast, and other such duties. Inasmuch as the people were subjects or property of the king, the death of a subject meant the loss of property to the crown, and it soon became the duty of the coroner to investigate the nature of deaths. It should be noted that in those early times, before the advent of scientific medicine, that the coroner was probably as well qualified as anyone else to render opinions as to the

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†Associate Professor of Pathology, Louisiana State University School of Medicine. Pathologist, Coroner's Office, Parish of Orleans.

causes of death. In fact, he was probably one of the best qualified, for the number of educated was very small and he belonged to that select group.

With the advent of scientific medicine, the development of gross and microscopic pathology and chemistry during the nineteenth century, more specialized information was obtainable as to the causes of death. At about this same period, the means of committing crimes became more complex and intricate. And along with these new developments, that is, scientific medicine and scientific crime, there arose on the continent particularly in Germany and France and equally well in England, the science of medicolegal investigation. This field, a true medical subspecialty, achieved great prestige in Europe because of its many accomplishments but has only recently come to be recognized in this country. It is appalling to think that in this country at the present time in some thirty-six states, coroners may be, and most frequently are, lay people with no medical training, elected on purely political grounds. In other states, such as this one, the most important single stride in the improvement of medicolegal investigation has been taken; that is, to require that the coroner is of necessity a medical man. In some seven states at the present time there is a nonpolitical system in which individuals trained in this medical subspecialty conduct investigations into the causes and manner of death. The author has had experience working in states and doing medicolegal investigation under all three of these systems. The following remarks are based on his personal thoughts concerning the advantages and disadvantages of each system.

DISADVANTAGES OF LAY CORONERS

There is no need for me to point out in great detail to this group the disadvantages of a system employing lay coroners and inquests for the determination of the causes of death in cases requiring investigation. Medical diagnosis on the live patient is a difficult procedure under even the best circumstances. In only the most flagrantly obvious cases is the cause of death apparent from external inspection and we all know that even cases that appear obvious from external inspection often present quite different findings when complete examination is carried out. For a lay person to superficially examine a dead body and pronounce that the cause of death is due to a heart attack is like buying a pig in a poke. Equally ridiculous is the inquest where a lay jury is summoned for the purpose of determining the cause and manner of death. It would be equally wise to go out on the street and pick up the first ten people as a jury and bring them in to ask them whether an operation for appendicitis should or should not be conducted. Some may argue that in some such jurisdictions the lay coroner summons help in the form of consultants and orders autopsies. It should be pointed out that the great drawback of this system is that the important decision is whether the autopsy shall or shall not be performed and this decision is made by a lay person who cannot and has not been trained to evaluate medical histories or physical findings. As a result the type of cases that come to autopsy in such a jurisdiction are the obvious ones that have bullet wounds of the head or a knife sticking out of the chest. It can truly be said if one would get away with murder one should go to a state where a lay coroner operates.

Here in Louisiana the most important step in the improvement of medicolegal investigation has been taken by the passage of a law which requires the medicolegal investigator to be a medical man. Equally important are the features of the law that define accurately and broadly what are the types of cases to be investigated and give to the coroner complete discretion as to the type of investigation that should be carried out under his jurisdiction. In my short experience here the conduct of medicolegal investigation in, let us say, the Parish of Orleans approaches that of many of the better jurisdictions throughout this country and I am sure, having traveled around the state, that similar high type of medicolegal investigation is carried out in many of the other parishes. Despite the great advances that have been made in the system in Louis-

iana several features of the system stand out to me as being deficient and in need of reform.

DISADVANTAGES IN LOUISIANA SYSTEM

The first great drawback to be observed in the Louisiana Coroner's system is that the coroner is an elected official. This immediately means that for election he must be a politically astute individual and that his qualifications for office are therefore not necessarily based on ability and training in the field of medicolegal investigation but are largely based on political connections. We all are familiar with the adage that "politics and medicine do not mix" and I think that this expression is equally as applicable to this portion of medical practice as it is, let us say, to the practice of surgery.

Once in office, the politically elected coroner is beholden to certain individuals or groups for the support he has had from them in obtaining his office. He is constantly subjected to pressures of individuals who have friends who know someone who knows someone. And I might add, parenthetically, that in the State of Louisiana I have not been able to find a single person who does not have a friend who knows someone who knows someone who can do something for him. This factor, that is, the pressure of people who have had to do with his election, should not have any influence on the coroner's judgments as to what type of case should be subjected to investigation and what type of investigation should be carried out. The coroner should be free to exert absolutely unbiased scientific opinions on these matters. He should be immune to this type of influence. Let me cite an example of the type of case I have in mind. In a jurisdiction in which I worked, a young man of approximately forty-five years of age was found slumped over his desk in his office one evening when the janitor came to clean. This man happened to be the brother of one of the most important political figures in the state. Investigation showed that the man had been treated by a physician some six months before but when this physician was questioned the treatment had been for an upper respiratory infection and sinusitis and the doctor could not account for the man's death in any way. The medical examiner ordered the body to the morgue for autopsy but before the morguewagon had arrived a funeral director, summoned by the brother, had taken the body to a funeral parlor and had been told by the brother to go ahead with the embalming and that an autopsy was not to be made. The medical examiners, however, had instructed the funeral directors in that state never to embalm a body before they had a bonafide death certificate in their hands and when this action was discovered, and a few harsh words were passed between the medical examiner and this politician, the body was brought to the morgue and an autopsy was performed. The cause of death in this case was cyanide poisoning, suicide, and it is interesting to note that if embalming had taken place the cause of death could not have been discovered, for as you all know, formaldehyde destroys cyanide. I wonder whether the truth in such a case would have been discovered in any jurisdiction from which the members of this audience come or whether this would not have been just another "heart attack."

The fact that the coroner is an elected official means that, once elected, he must not antagonize certain elements in his environment that may be detrimental to his re-election. Very often such influences are not conducive to the best medicolegal practice. Such powerful elements in the community as the press, the funeral directors, the politicians, and the labor unions must be continuously catered to. In the matter of the press, for example, it is frequently not advantageous from the law enforcement point of view to release certain facts to the press prematurely, and yet it is perfectly obvious that in order to gain re-election the coroner must play ball with the press.

Another aspect of the disadvantage of the election of the coroner stems from the fact that a coroner must always seek favorable publicity for re-election. A dramatic case which shows his work in the most favorable

light is a great vote getter. As a result he frequently becomes partisan with the state's attorney and police as a member of the prosecution team rather than maintaining the objective impartially of medical judgement that is of such great importance in medicolegal work. His work appears most favorably in the press and to the public when convictions are obtained. Actually, by impartial and objective fulfillment of his duties in obtaining facts, he should function as much to protect the innocent as to aid in convicting the guilty. By this same token, if prosecution is poor, or police work is poor, his work, although excellent, may appear in a poor light. These factors should have no influence on the re-election of the coroner but the facts are, that under the present system they do. In the best jurisdictions the work of medicolegal investigation goes on quietly and without fanfare or publicity. A case to illustrate this particular point happened in a small county in Maryland. A newly elected district attorney was out to make a reputation for himself and was anxious to get a conviction in the following case. A chronic alcoholic woman was found dead in bed by her similarly afflicted common-law husband after a debauch which had lasted for an indefinite period. The woman showed numerous subcutaneous hemorrhages over exposed parts of her body and rather marked livor mortis. The husband had been arrested, about a year before, for having beaten her when drunk. When questioned this time he stated that he did not beat her but that as he had been drunk it was quite possible that he had. He signed a statement to this effect. The police and the district attorney in the jurisdiction arrested him for homicide. The body was sent for autopsy. At autopsy the woman showed no evidence of injury. The subcutaneous hemorrhages, as you all know, are common findings in people with far advanced alcoholic fatty liver such as she showed. The hemorrhages occur after minor trauma and are due to the liver disease. There was no evidence of strangulation. The immediate cause of death was a severe lobar pneumonia involving both lower lobes. Although appraised of the findings of the autopsy the district attorney, because feelings in the neighborhood ran high and he wished to gain notoriety, decided to prosecute the case anyhow. The defendant had a poor lawyer who did not recognize the importance of the pathological findings. The district attorney decided to prosecute the case without presenting the autopsy findings and to use as evidence the statement of police officers who would testify that the body showed marks of having been beaten when they came upon the scene. The attention of the judge in this case was called by the Chief Medical Examiner of the state to the fact that the autopsy was not going to be introduced in court. The case was dropped and it might be added, the district attorney has resigned his office. In this particular case the accused was a very unpopular character in his neighborhood and I am sure that the fact that the case was dropped because of the action of the Medical Examiner would not have done anything to increase his popularity in that particular district had the facts been known. Not being elected he did not concern himself with local popularity. His action prevented a serious miscarriage of justice.

Another feature of the Louisiana Coroner system which appears to be of doubtful value to the author is the fact that the coroner is charged with duties of commitment of the insane. This feature of the Louisiana Coroner's system is unique in this country. In no other jurisdiction is it expected that someone versed in medicolegal investigation, pathology, and toxicology is also able to qualify as an expert in psychiatry. Such expectations, as we all know, are not realistic. In this day of specialized medicine it need not be emphasized to this group that such a highly specialized field as psychiatry should not be handled by individuals with only minimal training in the field.

The third great disadvantage to the Louisiana Coroner system has to do with budgetary matters. The coroners, particularly in the small parishes, are subject to the whims of the police juries in fiscal mat-

ters. Judgement as to whether a particular case should be investigated by autopsy or toxicological examination is, in great part, influenced by the monetary policies of the particular police jury. Frequently, because of the difficulty in getting examinations paid for, investigations that should be made are not made and those that should be complete are incomplete. Budgetary matters should not influence a medicolegal investigator as to the right course in a particular case. It has been emphasized over and over again by the best authorities in the field that unless cases that are not obvious and cases that are only slightly suspicious are thoroughly investigated in a routine fashion that many murders escape detection or many innocent people are wrongfully accused and even convicted of murder. The costs of medicolegal investigation are not great. In the best jurisdictions the cost of all services in this field comes to approximately five cents per person per year. It is about time that the people of Louisiana were given the best of service along this line in view of the large tax burden that they carry.

ADVANTAGES OF STATEWIDE SYSTEM

What then are the advantages of a statewide system for medicolegal investigation? If properly established, such a system would, in the first place, overcome the three disadvantages outlined in the previous paragraphs. Adequate budget would be provided for the operation of the system and salaries or fees would be made attractive to the most qualified personnel. In establishing such a system the duties of commitment of the insane would be delegated to people well qualified in that field. And most important of all, the system would be removed from the realm of political influence. In Maryland for example a nonpolitical commission of five individuals appoint the Medical Examiners. The positions are career positions, and it should be noted that despite the fact that a complete revolution in politics took place in Maryland in 1950, when Governor Lane, the Democratic incumbent, was defeated by Governor McKeldin, there was no change whatsoever in the personnel, policies or budget of the Maryland Medical Examiner System. Perhaps I am naive, having only recently come to this state, but I still do believe that five people of importance in this state could be found who have no political ties or obligations. I have in mind the Professors of Pathology at the Schools of Medicine within the state or the President of the Bar Association, or the President of the State Medical Association. Such established positions of nonpolitical nature could be made into a commission and the incumbents of such positions might serve during their tenure of office.

There are other advantages in a statewide system for medicolegal investigation as compared to the system in present operation in Louisiana. First and foremost is the fact that the difficulties in obtaining satisfactory investigations in cases that involve one or more parishes at the present time would be overcome. Frequently a patient dies in the Parish of Orleans who had received an injury or become ill in one of the other parishes before being brought to the Parish of Orleans. The difficulty in conducting a proper investigation in a parish where one has no authority is apparent. In a state system such difficulties would be overcome.

Let me give you an outstanding example of how a state system works along these lines. A woman was found on the floor of the front of a large sedan car that rolled down a hill in one of the counties outside of Baltimore. This case was signed out by the police as a death due to vehicular accident and they requested no further examination —it was a clean cut case to them. However, under the system operating in Maryland all violent deaths, including traffic accidents, were subjected to autopsy. When the body was brought to the Baltimore morgue and the blood removed from the face, the wounds on the face had a different appearance. And it was obvious to Dr. Fisher, the Chief Medical Examiner, that this death was not an accident but was murder, "plain and simple, no ifs, ands or buts." Because of the action of the Medical Examiner, pressure was

brought to bear to re-examine the scene and the Medical Examiner in company with police officers went to the scene and then discovered the following interesting facts: Despite the type of injuries on the body, the car was relatively intact. There was no broken glass except for the skylight inside the car. Despite the fact that the body was found on the floor on the front of the passenger's side, the driver's seat had blood which had flowed over the edge of the seat and had flowed in an upward direction if one considers the position in which the car came to rest. If the injuries had been obtained by the impact of the car the blood would have been on the floor and would have flowed to the right rather than to the left. Other evidence were the blood spots on the ceiling of the car; several rows of droplets hitting the roof of the car all in a parallel direction. Perhaps the most damaging bit of evidence was a stone found pressed under the accelerator of the car. When this was discovered it was recalled by the police who came upon the scene that when the car had come to rest, even though Mrs. X was not resting on the accelerator, one of the back wheels that was up in the air was spinning and the police had turned off the ignition switch. The perpetrator of this crime is at present sentenced to be hanged, but I wish to call the attention of this audience to the fact that the murderer probably would not have been apprehended had not the medical examiner been able to cross county lines and to exert his influence on the police in a county of the state. Without this type of examination I am sure this case would have gone down as just another vehicular accident.

Another advantage of having a state system of medicolegal examination is that there will be a certain uniformity of treatment of the citizens throughout the state in the various parishes. For example, if one is driving one's car and a drunk steps off the curb in front of the car and is killed, it is greatly to your advantage at trial to have a determination of the blood alcohol of the deceased victim. As you drive around this state there are some parishes in which this routine examination would be done because there are facilities and funds available and there are other parishes right close by where such an examination would not be carried out. The citizens of this state have the right to expect these facts to be brought forth, and this type uniformity of treatment is almost a necessity.

Perhaps the single greatest asset to be achieved by such a system in this state would be the establishment of a single or group of laboratories around the state qualified to perform toxicological examinations. The usual hospital laboratory is not equipped for this type of examination The tests are highly specialized, the actual amounts of poisons to be discovered in organs or blood are small and they require unusual techniques and specially trained personnel. A laboratory where material for examination from any parish in the state can be sent and the results can be relied upon, will be of great value in improving the practice of forensic medicine about the state. Already there is a section of the coroner's law which makes such a procedure valid and it really only requires activation on a part of the interested parties in the state to get such services going.

A case to illustrate the important information that can be gathered from the performance of routine laboratory determinations follows. A man phoned his neighbor and said that his car was not running that particular morning and would the neighbor be kind enough to pick him up on his way to work. When the neighbor blew his horn outside the man's house the man stepped jauntily from the front door, yelled back an endearing message to his wife and drove off to work with his friend. About an hour after he had left a severe fire broke out in the house and the house was burned to the ground. About eight inches of water accumulated in the cellar and the firemen found the badly burned and charred body of this man's wife in the debris in the cellar. The case would have been dismissed as one of a death due to conflagration except for the fact that in this particular jurisdiction

it was routine to have a carbon monoxide determination done on the blood of the victim of every fire. If a victim is alive during a fire in an enclosed space the blood always contains some carbon monoxide. No carbon monoxide was found in the blood of this woman and on the basis of this, although the exact mechanism of death could not be determined because the body was badly destroyed by fire, a report was made to the police and the fire marshals to make further investigations. The fire marshal discovered a pot-bellied stove in the cellar that had formerly been on the first floor and this stove, peculiarly enough, was melted in several places. The stove was meant to withstand fire and it was quite unusual that a stove of this type should be melted. Further search in the debris revealed an alarm clock mechanism for delayed action. It turned out that the husband had murdered his wife before leaving for work and placed her on the bed as shown in this diagram along with the alarm clock mechanism to set the fire. The bed was loaded with thermite. The heat of the fire destroyed the bed and burned up the evidence of the exact mechanism of death of the woman. The bed, woman, and thermite fell to the first floor onto the stove and subsequently fell into the basement. The friend when questioned stated that he had not seen the wife that morning, nor had he heard her reply to her husband's fond farewell. The husband was convicted of murder. I would like to ask in how many jurisdictions around this state is the determination of carbon monoxide on fire victims a routine procedure? Don't you think the people of this state deserve this kind of medicolegal investigation?

The establishment of a panel of pathologists who would be willing and qualified to do competent examinations under such a system around the state would complete the necessary and important foundation for the establishment of such a system. These pathologists should be adequately recompensed for their service and time in transit. At the Louisiana State University School of Medicine there has been inaugurated a course in Medical Jurisprudence, Toxicology and Traumatic Pathology, which has evoked considerable interest among the students. In addition to didactic teaching, the students are invited to the office of the Coroner of the Parish of Orleans and are given on the scene instruction in the workings of the Coroner's system. Several students have evidenced enough interest to wish to work at the Coroner's office during their summer vacations. Eventually there is hope that a graduate training program in cooperation with the Pathology resident training programs at both medical schools will be inaugurated. This training program should supply a number of qualified personnel throughout the state to carry on under an improved system of medicolegal investigation.

SUMMARY

In summary, I believe that some reform of the existing Coroner's System in Louisiana is indicated. Some specific objectives of such a change have been pointed out. It is not unrealistic to believe that these changes can be made and can be made rather easily. There is a great deal of general interest in medicolegal matters in the state of Louisiana. Much more radical changes have been made in other states where such interest was lacking and where the efforts of the medical profession to improve the situation was combatted tooth and nail by a well established politically strong group of lay coroners. In this state such opposition would not be forthcoming. Already a group of coroners have been questioned on this matter and a majority of them are in favor of it. Any reform of this nature needs the whole hearted support and backing of the medical profession. The exact method of effecting the change in the Coroner system and the details of the change should be worked out by others who have more familiarity with the political workings of the state. In this paper I have merely attempted to point out the advantages to be gained by the inauguration of a state system of medicolegal investigation. Whether such a reform takes place depends in large part upon the interest and efforts of the medical profession.

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THE PHYSICIAN'S INTEREST IN THE PROPOSED BRICKER AMENDMENT TO THE UNITED STATES CONSTITUTION

A condition exists in the treaty-making power of the President of the United States and of the Senate which potentially threatens our rights. Physicians have an interest in this situation as citizens, and they also have an interest in the possible manner in which the treaty-making power may be distorted to utilize the devices of treaty making to precipitate State Medicine upon us.

The concern in this matter arises from the fact that under our law a properly ratified treaty becomes the law of the land and as binding as domestic law. Under such provisions it is conceivable that a president might negotiate a treaty with a foreign power, or with a group of foreign powers, which after ratification would give an outside agency the right to adjudicate matters of dispute between capital and labor, or between races, or in disputes concerning the so-called human rights. The particular occasion for concern is the treaty that already exists between the United States and the International Labor Organization (ILO), of which the United States is a member. To some of its provisions the United States subscribes. The recent resolution by the ILO adopted a convention proposing minimum standards of Social Security, including "socialized medicine." The legal situation is such that our government is under pressure to ratify portions, and possibly, all of this convention.

If that portion proposing socialized medicine should be ratified by the Senate, the national government would then be under solemn obligation to institute all laws and fundamental agencies to carry out this direction, including socialized medicine. If such a circumstance presented, it would establish socialized medicine as a part of our way of life, even after it had been defeated in both Houses of Congress on several occasions in the last ten years, and after the presidential election of 1952, which was practically a referendum defeating this proposal. To meet these very urgent needs and the protection of our rights as citizens, Senator Bricker of Ohio, for himself and sixty other Senators, introduced Joint Resolution No. 1, proposing an amendment to the Constitution of the United States that would limit the present scope of treaties and Executive Agreements. As originally proposed, the amendment would (a) render void any

treaty or executive agreement that denies or abridges any right enumerated in the Constitution; (b) outlaw any treaty authorizing any foreign power or international organization to adjudicate constitutional rights of United States citizens or any domestic issue; and (c) require domestic legislation to permit a treaty to become effective as internal law in the United States.

The administration opposes this amendment on the ground that it would interfere with the treaty-making power of the President, and possibly, interfere with any international agreement which would limit armaments. After other further discussions in the last six months, the wording of the Bricker resolution has been changed, in response to suggestions of an American Bar Association committee. The resolution has been approved by the Senate commtitee, and may be presented to the Senate in the near future. It is probable that long debate will be held, and final action may not be taken before fall.

The opponents of the resolution apparently have brought considerable legal sophistry to bear in combatting it, and their argument may be summed up by saying that the constitutional amendment, if passed, would take power away from those who want to keep the power where it is. Those who are advocating the resolution point to the threat coming from the International Labor Organization's conventions, and to a previous experience, in a case which is described as *Missouri versus Holland*, in which a treaty gave Congress the right to regulate migratory birds for which it specifically did not have any constitutional provision or domestic law.

The American Medical Association has gone on record as being heartily in accord with the purposes of the Bricker Resolution. The Board of Trustees and the House of Delegates of the Association on two occasions have emphatically endorsed the principle that the scope of treaties and executive agreements should be limited. It is the belief of the Association that such a limitation is necessary to avoid any abridgement of the rights enumerated in the Constitution and to prevent adjudication of domestic issues by such measures.

It is quite clear from consideration of the various points raised that our interests as citizens and our desire to avoid State Medicine would both be served by active support of the Bricker resolution.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

LEGISLATIVE ACTIVITY

The Committee on Public Policy and Legislation, under the chairmanship of Dr. Henry W. Jolly, Jr., has asked the cooperation of the component organizations of the State Society to assist in plans for considering various medical matters which will most probably be presented at the next session of the legislature.

It is felt that an intensive public educational program should be undertaken and that this should begin NOW. The president of each component society has been asked to appoint two committees—one to handle contacts with legislators and the other to plan a public educational program. Response to request of the chairman for appointment of these committees has not been very encouraging and in view of the importance of this activity each society is urged to give the matter immediate attention.

Committees appointed at this time are as follows:

CADDO PARISH

COMMITTEE TO CONTACT LEGISLATORS—Dr. S. W. Boyce, Dr. Ford MacPherson, Dr. Clarence Webb.

PUBLIC EDUCATIONAL PROGRAM COMMITTEE—Dr. Keith Mason, Dr. J. P. Sanders, Dr. Jack W. Pou.

CALCASIEU PARISH

COMMITTEE ON LEGISLATIVE MATTERS—Dr. Jared Y. Garber, Dr. Harry S. Snatic, Dr. Melvin H. Gold.

EAST BATON ROUGE PARISH

COMMITTEE ON LEGISLATIVE MATTERS—Dr. Marion Kopfler, Dr. C. S. McConnell, Dr. Agrippa G. Robert, Dr. C. T. Morris, Dr. Albert L. McQuown, Dr. Myron Walker.

ORLEANS PARISH

COMMITTEE TO CONTACT LEGISLATORS—Dr. Edwin L. Zander, Dr. C. J. Brown, Dr. Boni J. DeLaureal, Dr. Charles B. Odom, Dr. H. Ashton Thomas.

PUBLIC EDUCATIONAL PROGRAM COMMITTEE—Dr. Paul L. Getzoff, Dr. William Gillentine, Dr. Nicholas Chetta.

ST. LANDRY PARISH

COMMITTEE TO CONTACT LEGISLATORS—Dr. N. C. Lefleur, Dr. E. K. Ventre, Dr. L. Lazaro, Dr. F. J. Mayer.

PUBLIC EDUCATIONAL PROGRAM COMMITTEE—Dr. W. G. Owen III, Dr. D. J. deBlanc, Dr. W. J. Briley, Dr. F. J. Mayer.

ST. MARY PARISH

COMMITTEE TO CONTACT LEGISLATORS—Dr. Hilton J. Brown.

PUBLIC EDUCATIONAL COMMITTEE—Dr. Giuseppe P. Musso.

WEBSTER PARISH

COMMITTEE TO CONTACT LEGISLATORS—Dr. J. M. Garrett, Dr. B. L. Cook, Dr. Tom Richardson.

PUBLIC EDUCATIONAL PROGRAM COMMITTEE—Dr. C. M. Baker, Dr. Milton Richardson.

MEMBERS OF
LOUISIANA STATE MEDICAL SOCIETY
WHO DIED

May 1, 1952 to May 31, 1953

Dr. John Bailey Benton, Minden, December 13, 1952.

Dr. E. Oscar Bond, Haynesville, November 21, 1952.

Dr. Joseph Clyde Bruner, Rayne, August 30, 1952.

Dr. Robert McGimsey Carruth, New Roads, November 7, 1952.

Dr. Ronald Eaton Corkern, Natchitoches, February 10, 1953.

Dr. W. E. Dillon, Logansport, September 10, 1952.

Dr. Aurelius Earle Fisher, Monroe, November 7, 1952.

Dr. Simon Geismar, New Orleans, January 4, 1953.

Dr. William Block Heidorn, Shreveport, December 26, 1952.

Dr. James Kirby Howles, New Orleans, April 2, 1953.

Dr. Samuel George Kreeger, Lake Charles, September 1952.

Dr. Leo Douglas Lafargue, Effie, November 24, 1952.

Dr. W. M. Ledbetter, Shreveport, December 2, 1952.

Dr. Willis David Lester, Many, 1952.

Dr. Lionel Francis Lorio, Baton Rouge, June 13, 1952.

Dr. Jesse Woods Mobley, Vivian, 1952.

Dr. Daniel Milton Moore, Monroe, 1953.

Dr. Olin Winn Moss, Lake Charles, January 9, 1953.

Dr. Peter Francis Murphy, New Orleans, November 11, 1953.

Dr. Marvin Milton Odom, Gretna, January 26, 1953.

Dr. Ramon Adrian Oriol, New Orleans, January 5, 1953.

Dr. Alonzo Trent Palmer, Tallulah, October 30, 1952.

Dr. Carl Grisham Pardue, Alto, May 27, 1952.

Dr. Thomas Bryon Pugh, Baton Rouge, May 4, 1952.

Dr. Glenn J. Smith, Amite, May 24, 1953.

Dr. Victor Conway Smith, New Orleans, May 21, 1953.

Dr. John Garrison Snelling, Jr., Monroe, June 22, 1952.

Dr. Benjamin Horace Talbot, Ruston, April 27, 1952.

Dr. James William Tedder, New Orleans, May 5, 1952.

Dr. Clyde Coleman Thompson, Delhi, February 19, 1953.

Dr. William George Troescher, New Orleans, December 31, 1952.

Dr. Martin Thomas Van Studdiford, New Orleans, May 15, 1953.

LOUISIANA STATE MEDICAL SOCIETY NEWS

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Morehouse	Third Thursday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

NEWS ITEMS

Dr. T. A. Watters recently attended the monthly meeting of the Chicago Psychoanalytic Society in Chicago and was guest lecturer at the Veterans Administration Hospital in North Little Rock, Arkansas, on May 28-29. While in Little Rock he spoke before the Pulaski County Mental Health Society on "The Mental Health Problem."

Dr. A. Sidney Harris, professor of physiology in the Louisiana State University School of Medicine, will benefit from a grant made recently by Eli Lilly and Company.

The grant will support a study of the action of cardiac drugs under Dr. Harris' direction.

ACTION OF STREPTOMYCIN AND PARA-AMINO SALICYLIC ACID

Streptomycin and PAS are not bacteriocidal but bacteriostatic. They do not cure or eradicate the disease. Relapses occur and reconversion of sputum from negative to positive is frequent. They have markedly improved the prognosis of tuberculosis but have not controlled it. John H. Skavlem, M.D., The W. Va. Med. J., December, 1952.

SYMPTOMS ARE SECONDARY

Many physicians are reluctant to believe that people can have pulmonary tuberculosis when they show no clinical symptoms and there is nothing to direct attention to their lungs except a shadow on a chest film. The tendency is to reassure the patient that the lesions are old and inactive, but the tragedy comes later when the same patient is found to have moderately or far advanced disease. Alan L. Hart, M. D., Public Health Reports, December, 1952.

DEATHS FROM TUBERCULOSIS AND HEART DISEASE

Deaths from tuberculosis among the nation's 88,000,000 life insurance policyholders fell to an all-time low mark in 1952, indicating how effective has been the battle against this long-time scourge, the Institute of Life Insurance reports today.

At the same time, deaths from heart disease among U. S. policyholders reached a record high. Heart disease was the No. 1 killer last year, accounting for well over half of all policyholder deaths.

Tuberculosis, killing nearly one-fourth fewer policyholders than it did the year before, showed the greatest percentage drop of any year on record and accounted for only about 2 per cent of total deaths. The current death rate from this cause is a small fraction of the rate at the turn of the century.

WARN THAT CARBON TETRACHLORIDE POISONING HAZARD IS INCREASING

Carbon tetrachloride, a solvent used extensively as a home and commercial cleaning fluid and for various industrial purposes, is a poison hazard of increasing importance, according to a warning sounded in an article in the American Medical Association's Archives of Industrial Hygiene and Occupational Medicine.

The deadly effects from inhaling the fumes or swallowing the product were related by two United States Public Health surgeons, Dr. Albert V. Myatt of the malaria project at the federal penetentiary in Atlanta, and Dr. James A. Salmons of the U.S. Public Health Service Hospital in San Francisco. One finding of a joint study was that persons drinking alcoholic beverages are more likely to be affected.

They reported that 15 persons suffering from carbon tetrachloride poisoning were admitted to the San Francisco Hospital from January, 1948, to May, 1951, an incidence of about one per 1,000 admissions. Of these, three died and the others recovered. Seven patients were seamen electricians who used the product to clean motors; three other patients used it as a degreaser. Three swallowed the solvent; case histories were not obtainable in two others.

"The public believes carbon tetrachloride to be a relatively safe cleaning agent," the surgeons reported. "Its noninflammability is one reason for its widespread use. The average nonmedical user does not know that the toxicity of carbon tetrachloride is enhanced in alcoholics or in malnourished persons.

DOCTORS NEEDED

Louisiana Ordnance Plant, Remington Rand, Inc. Shreveport, Louisiana. Family man, under sixty years of age, preferred. Salary $8,500.00.

New clinic in Oberlin, Louisiana available rent-free. If desired equipment will be furnished at small rental fee. Contact American Legion Post No. 144, Oberlin in care of Allen J. Fuselier.

UROLOGY AWARD

The American Urological Association offers an annual award of $1000.00 (first prize of $500.00, second prize $300.00 and third prize $200.00) for essays on the result of some clinical or laboratory research in Urology. Competition shall be limited to urologists who have been in such specific practice for not more than ten years, and to men in training to become urologists.

The first prize essay will appear on the program of the forthcoming meeting of the American Urological Association, to be held at the Waldorf-Astoria, New York City, May 31-June 3, 1954.

For full particulars write the Executive Secretary, William P. Didusch, 1120 North Charles Street, Baltimore, Maryland. Essays must be in his hands before February 1, 1954.

STEWART GORDON THOMPSON, D.P.H.
1881-1953

Announcement has been received from the Florida Medical Association that Dr. Stewart Gordon Thompson, Managing Director of that Association for over a quarter of a century, died on April 23, 1953.

BOOK REVIEWS

Endocrine Functions of the Pancreas; by Bernard Zimmermann, M. D. Springfield, Ill., Charles C. Thomas, 1952. Pp. 82. Price $2.50.

This is a monograph in the American Lecture Series and represents a particularly well organized presentation of the available material. The monograph begins with a brief history of experimental pancreatic diabetes, the discovery of insulin and of other endocrine glands involved in the regulation of carbohydrate metabolism. This is followed by a short but adequate review of the nature of insulin. The metabolism in diabetes and the various theories concerning the etiology of diabetes are reviewed as is the action of insulin in alleviating diabetes. The last three chapters are concerned with the regulation of internal pancreatic secretion, special problems in lipid metabolism and the hyperglycemic factor. The latter chapter is particularly well written and the author points out that there is still insufficient evidence to indicate whether this factor is truly an alpha-cell hormone or an endocrine substance at all. On the other hand, the presence of a blood sugar-elevating principle in insulin preparations does reconcile some of the conflicting evidence regarding the action of insulin. While the primary emphasis is on experimental data, the author does include many clinical considerations and applications which will make the monograph of interest to clinicians as well as to investigators. While much of the material is available in the usual texts, this monograph serves as an excellent brief but critical review. There is also an extensive bibliography at the end of each chapter.

H. S. Mayerson, Ph. D.

Atlas of Medical Mycology; by E. S. Moss, M. D., and A. L. McQuown, M. D. Baltimore, Williams & Wilkins, 1953. Pp. 245. Price $8.00

Here is a book written by clinicians for the use of clinicians. It is an excellent and thorough pictorial presentation of every aspect of the field of medical mycology, with particular emphasis on clinical and mycological methods of diagnosis. The text is perhaps somewhat sketchy but one must bear in mind that the primary intent of the authors was to simplify as much as possible the numerous problems encountered in the diagnosis of fungous disease by the clinician who lacks specialized training in this field. They have succeeded admirably in accomplishing this purpose.

The book contains some 248 outstanding photographs and photomicrographs. These have been carefully selected so that, for each type of fungous disease, there is illustrated: (a) the gross appearance of the lesions, (b) the appearance of the etiologic agent in transudates and exudates, (c) the histopathology, and (d) the gross and microscopic characteristics that serve as a basis for identification of the etiologic agent after isolation in culture. There is also a section illustrating the characterstic features of many species of fungus contaminants. All diseases known to be caused by fungi are adequately presented.

It is felt that this book fills a definite need and deserves a place in the library of not only the clinical pathologist and dermatologist but of the general practioner as well.

J. D. Schneidau, Jr.

Intracranial Aneurysms: By Wallace B. Hamby, M. D. Springfield, Illinois, Charles C Thomas, 1952. Pp. 564, illus. Price $14.25.

Increasing surgical interest in cerebral vascular lesions is reflected in this handsome volume which includes in its purview intracranial arterial aneu-

rysms, arteriovenous fistulae and angiomatous malformations. By far the largest part of the book concerns the first of these three, and only a small section is devoted to the last.

Improved diagnosis of intracranial vascular lesions since the advent of cerebral angiography has placed the onus of treatment more squarely on the shoulders of the clinician. Dr. Hamby has surveyed the literature of the field from the neurosurgeon's point of view, bringing his critical judgment to bear on the available evidence. He has done an important service by summarizing the background necessary for understanding current treatment. The views of such outstanding contributors as Dandy, Jefferson, Olivecrona and Poppen are given prominence while Dr. Hamby's own cases provide additional samples of the problems to be faced. Recent references that have not been integrated into the text are included in the bibliography. The section on prognosis of subarachnoid hemorrhage is important for clinical observers who see this entity, if no other section of the book is read.

The continued use of the test for collateral cerebral circulation published by Dr. Rudolph Matas, in 1910, will be of particular interest to those who have worked with him. Tantalum bands for partial or transient carotid ligation have been substituted for the aluminum ones of Dr. Matas described in 1911. Selverstone's new clamp which can be occluded progressively or opened quickly without re-exposing the artery, while not described in the text, is the most recent step. It is a modification of Goldblatt's renal artery clamp used in the experimental production of hypertension.

Since publication, cerebral circulatory physiology, which is treated briefly, has had several important additions. Of particular interest are intracranial arterial pressure measurements recorded by Woodhall during surgical exposure of aneurysms and cerebral blood flow measurements by Shenkin after carotid ligation for aneurysm. An understanding of the contraindications to cerebral angiography also has progressed and the effect of intra-arterial diodrast on cerebral tissue has been studied intensively. Complications of carotid artery ligation in the neck for intracranial vascular lesions have been analyzed further by Brackett and additional experiences with intracranial trapping procedures utilizing controlled blood pressure have been presented, particularly by Poppen.

W. Randolph Page, M. D.

Penicillin Decade, 1941-1951; Sensitizations and Toxicities; by Lawrence W. Smith and Ann D. Walker. Washington, D. C., Arundel Press Inc., 1952. Pp. 122. Price $2.50.

A thorough and useful compilation of all types of toxic reactions reported as occurring in patients after administration of penicillin preparations. The reactions following the early crude preparations, the suspensions of penicillin in peanut oil and beeswax and pure crystalline procaine-penicillin G are described.

Discussions of sensitization to pure penicillin preparations by topical application in therapeutically inadequate amount, consideration of special factors involved in administration of penicillin to infants and children, development of bacterial resistance and similar things add to the value of the book.

Foster N. Martin, Jr., M. D.

The Clinical Use of Testosterone; by Henry H. Turner, M.D. Springfield, Illinois, Charles C Thomas, Publisher, 1950. pp. 69. Price $2.00.

This volume consolidates and brings to the point of usefulness many isolated facts which most of us know but do not apply. Before and after pictures of patients with various types of hypogonadism help out the text considerably. One of its attributes is that it does not limit itself to positive indications for the use of testosterone, but speaks out against its use in benign prostatic hypertrophy, impotence due to psychic causes, and certain other borderline conditions.

The repeated warnings of the author concerning the "unfortunate misinformation regarding male hormonal therapy which has been fostered, exaggerated, and frequently misstated by sensational and pseudoscientific lay writers" is applauded.

The book is not limited to therapeutics; it discusses in some detail the history, physiology, chemistry, and metabolism of testosterone. Of use to the clinician is a chapter at the end of the book on commercial preparations of testosterone.

This valuable book is further enhanced by its complete bibliography.

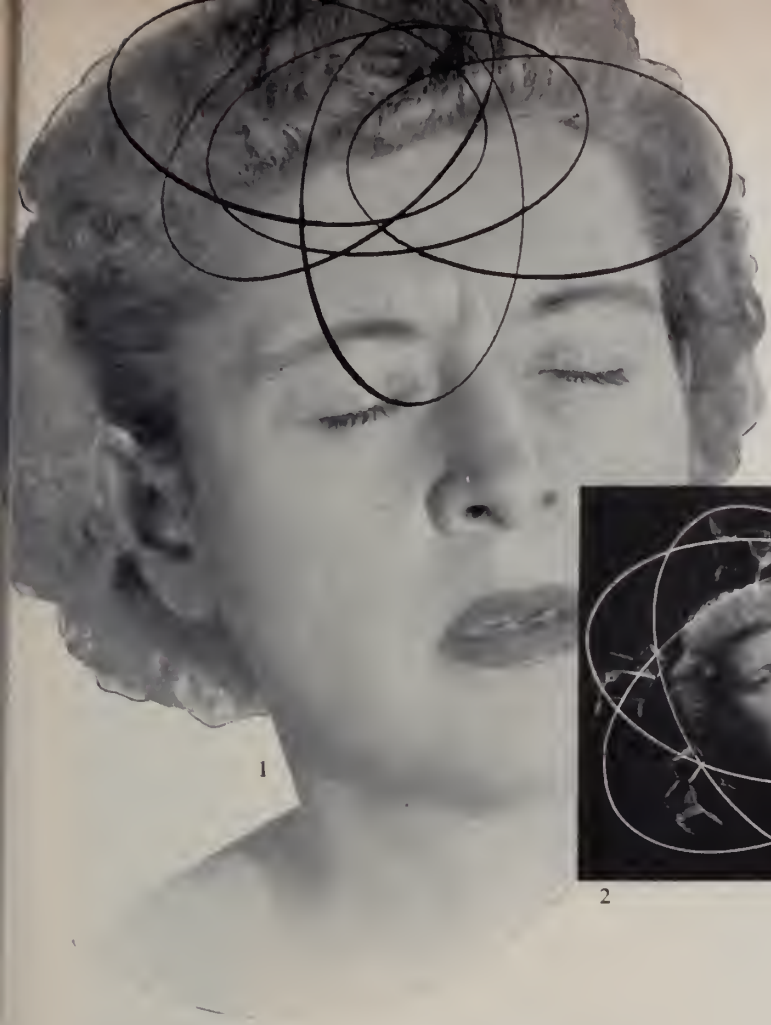
J. W. Vildibill, Jr., M.D.

Tobacco and the Cardiovascular System; by Grace M. Roth, Ph.D. Springfield, Illinois, Charles C Thomas, Publisher, 1951. pp. 66. Price $2.25.

This presentation is short and concise. The history of the problem is reviewed briefly and data are presented to illustrate the effects of smoking on heart rate, blood pressure, skin temperature, and the electrocardiogram control tests included the use of "denicotinized" tobacco, various types of paper, mechanical act of smoking and intravenous injection of nicotine. These various procedures lead to the conclusion that nicotine is the "offending" agent with a resultant vasoconstriction. That this occurs seems quite clear from the data presented but that it is detrimental is not quite so clear.

There are an adequate number of charts and diagrams to illustrate the points which the author makes. The presentation is quite clear and well organized. This monograph is to be recommended for anyone interested in vascular responses.

Clarence Thorpe Ray, M.D.



1. *Dizziness . . . movement is within the head.*
2. *Objective vertigo . . . the environment is in motion.*
3. *Subjective vertigo . . . the patient himself moves in space.*

1 2 3

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1. Simonton, K. M.: The Symptom of Dizziness, Arizona Med. *6*:28 (Sept.) 1949.

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1. Reich, W. J. et al. (1951, A Recent Advance in Estrogenic Therapy. I. Amer. J. Obst. & Gynec., 62:427, August. 2. Perloff, W. H. (1951), Treatment of the Menopause. II. Amer. J. Obst. & Gynec., 61:670, March. 3. Reich, W. J. et al. (1952), A Recent Advance in Estrogenic Therapy. II. Amer. J. Obst. & Gynec., 64:174, July.

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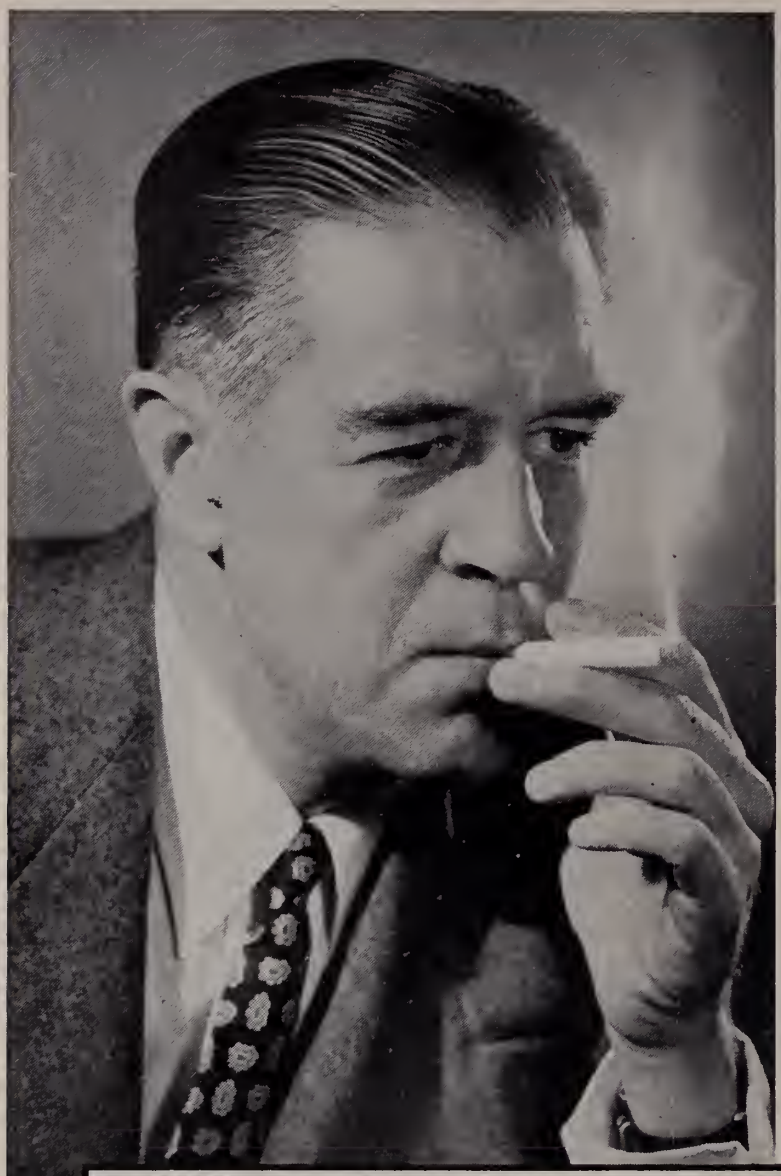

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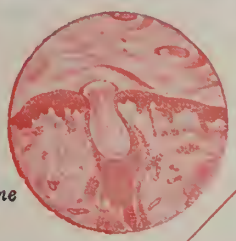
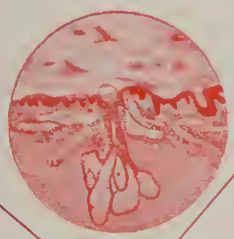


acne



pyoderma

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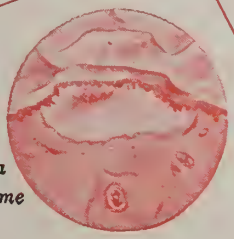

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1. *Bednar, G. A.: South. M. J. 46:298 (March) 1953.*
2. *Wright, C. S. et al.: A. M. A. Arch. Dermat. & Syph. 67:125 (Feb.) 1953.*
3. *Robinson, H. M. et al.: South. M. J. (in press).*
4. *Andrews, G. C. et al.: J. A. M. A. 146:1107 (July 21) 1951.*

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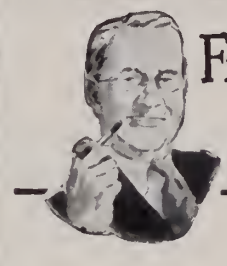

From where I sit *by* Joe Marsh

PTA Gets Stung by a "Bee"

The local PTA is feeling sheepish today. Seems they complained the youngsters weren't learning enough. Said they couldn't even spell. So the kids challenged them to a spelling bee.

"I was captain of the PTA'ers," "Doc" Brown told me. "Both teams made the first round just fine. But on the second round Speedy Taylor went down on 'efficiency.' Then his boy Chip, who happened to be next on the school team, rattled it right off. From then on it was murder!"

So now "Doc" says that the whole PTA is thinking of signing up for night school!

From where I sit, it pays to look and think before you leap to conclusions. Take those folks who would deny me a glass of beer without a moment's thought. Or those who would tell me how to practice my profession. They wouldn't want me to interfere with their way of life. It's a good idea to think twice before you "spell out" rules for others.

Joe Marsh

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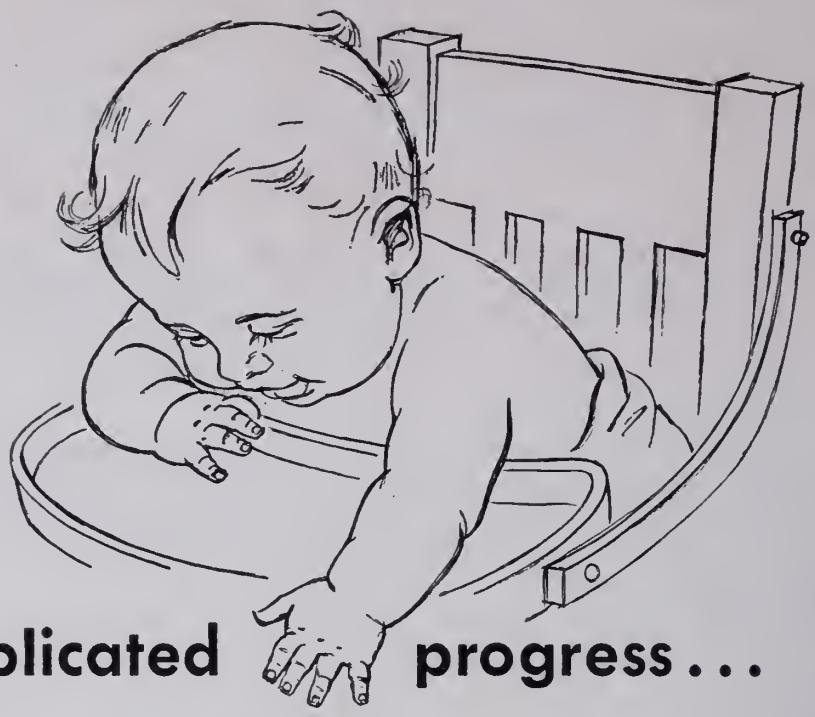

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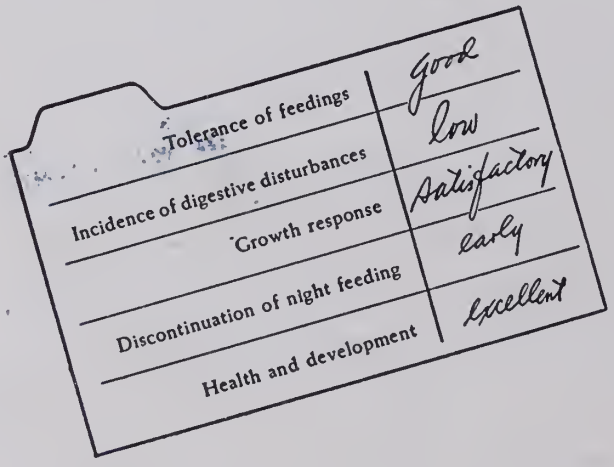

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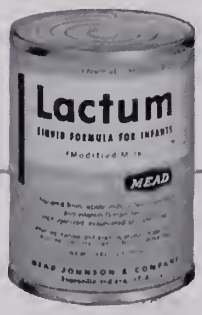
1. Frost, L. H., and Jackson, R. L.: J. Pediat. 39: 585-592, 1951.



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Entered at Postoffice at New Orleans as Second Class Matter

The present fluoridation effort has caused the Louisiana State Department of Health to become increasingly aware of the probable relationship between fluoride concentration in a drinking water supply and climate. The average mean temperature in the United States varies from 40°F. and below for the northern states to 70°F. and above in some of the southern states. Since Louisiana is to be found in the lower tier of states and having an average mean temperature of 70°F. or higher, it is thought that Louisiana's children and youth will probably drink more water than children and youth from the midwest. However, no data is available to the State Health Department that would indicate how much if any more water is consumed.

It is known that in the northern and midwestern states the severity of mottled enamel has a specific relationship to the fluoride content of water consumed, and it has been suspected for some time that in Louisiana, there is a relationship between long, hot summer weather, amounts of water consumed, its fluoride content, and the severity of mottled enamel.

In 1952, the Dental Health Section attempted to establish this suspected relationship by examining the teeth of all children from 6 through 16 years of age, who had been continuous residents of the community and had continuously consumed fluoride water in the amount of 1 p.p.m. It soon became apparent, after the survey began, that there were too few children in the only two communities having 1 p.p.m. of fluoride in the municipal water supply to establish conclusive data.

It would seem that recent investigations made by the U. S. Public Health Service in 6 Arizona cities, where there is an average mean temperature of 70° F. or more, would assist Louisiana in establishing a firmer fluoridation policy. These investigations were based upon known data, that there is a direct quantative relationship between fluoride and mottled enamel and the inverse relationship between fluoride and dental caries experience. The purpose of this study was to determine:

1. The fluorosis index to measure the extent of mottled enamel.
2. The decayed missing filled (DMF) index as a measurement of caries experience.

A careful analysis of the available portion of this study demonstrates the concentration of fluoride in the drinking water of:

1. More than 0.8 parts per million results in objectional dental fluorosis.
2. From 0.6 to 0.8 p.p.m. results in occasional objectional fluorosis.
3. Below 0.6 p.p.m. no objectionable fluorosis.

The portion of the study dealing with the DMF index as a measure of caries experience has not been published. However, the investigator has stated, in private interview, that the reduction of caries at 0.6 p.p.m. of fluoride in the drinking water is approximately two thirds.

It would seem reasonable to think that children of Louisiana would drink more water than children from temperate climate but because of high humidity less than children from Arizona.

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1. Barach, J. H.: Diabetes and Its Treatment, New York, Oxford University Press, 1949, p. 38.
2. Allen, F. M.: Diabetes Mellitus, in Piersol, G. M., and Bortz, E. L.: Cyclopedia of Medicine, Surgery, Specialties, Philadelphia, F. A. Davis Company, 1951, vol. 4, p. 505.

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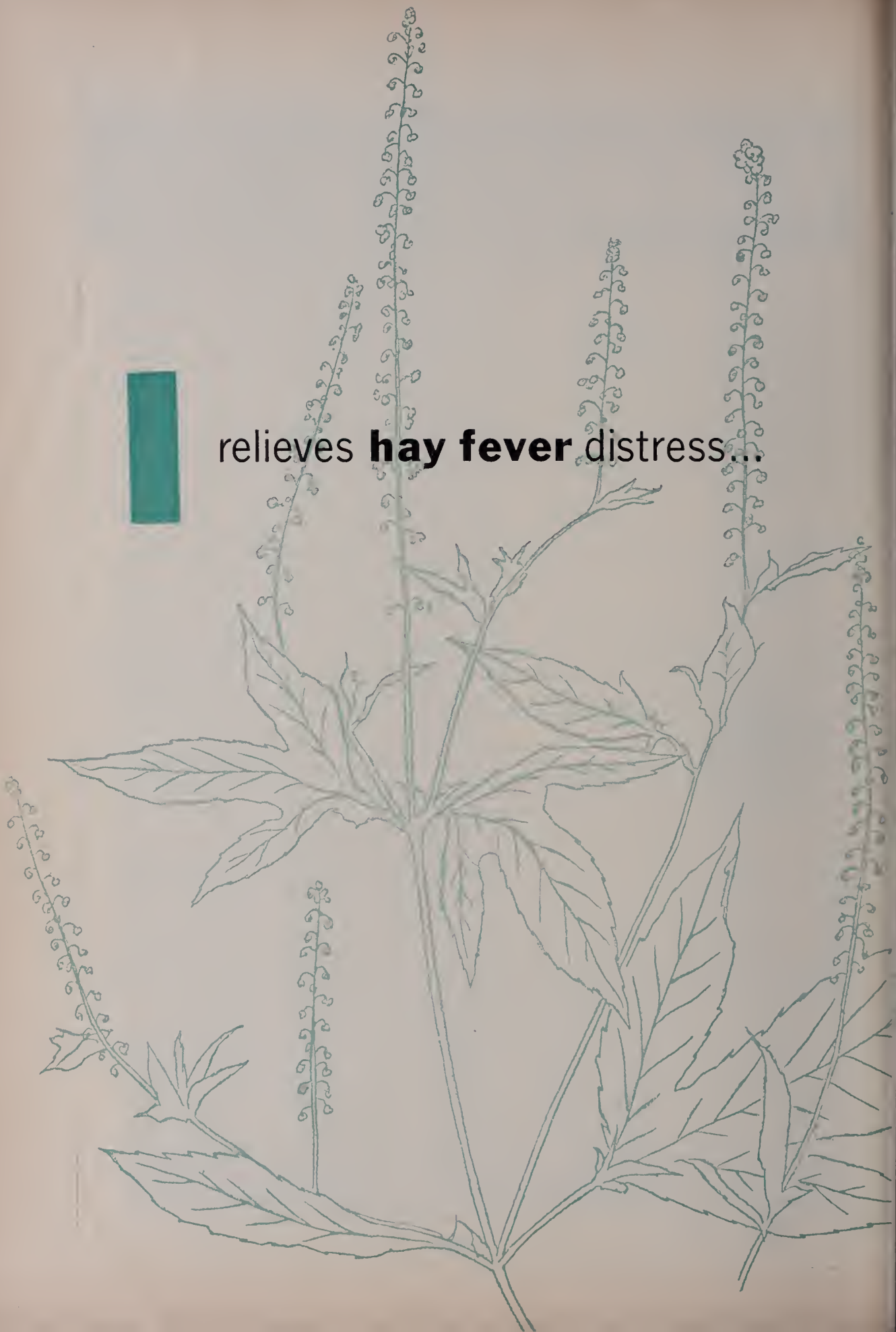
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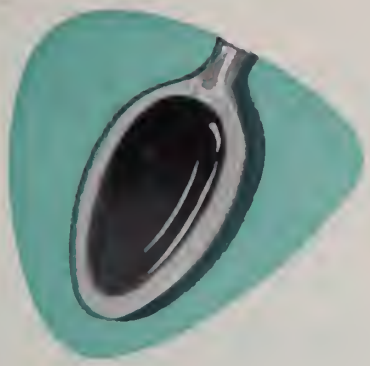

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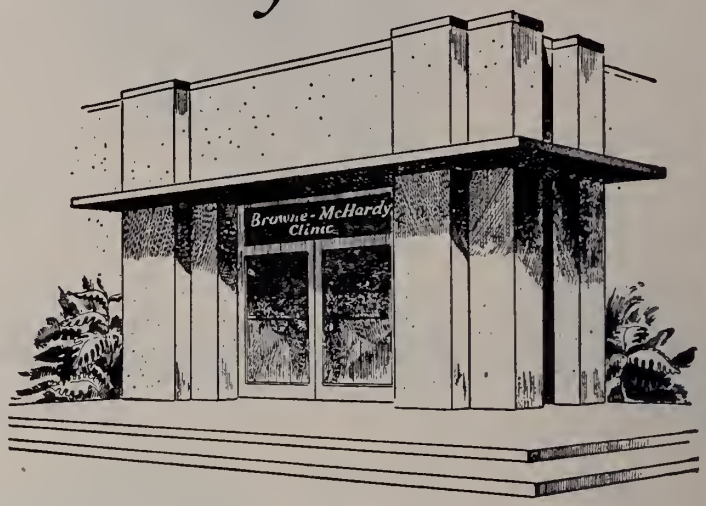

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1. Silbert, N. E.: New England J. Med. 242:931, 1950.
2. Eisenstadt, W. S.: Journal Lancet 70:26, 1950.

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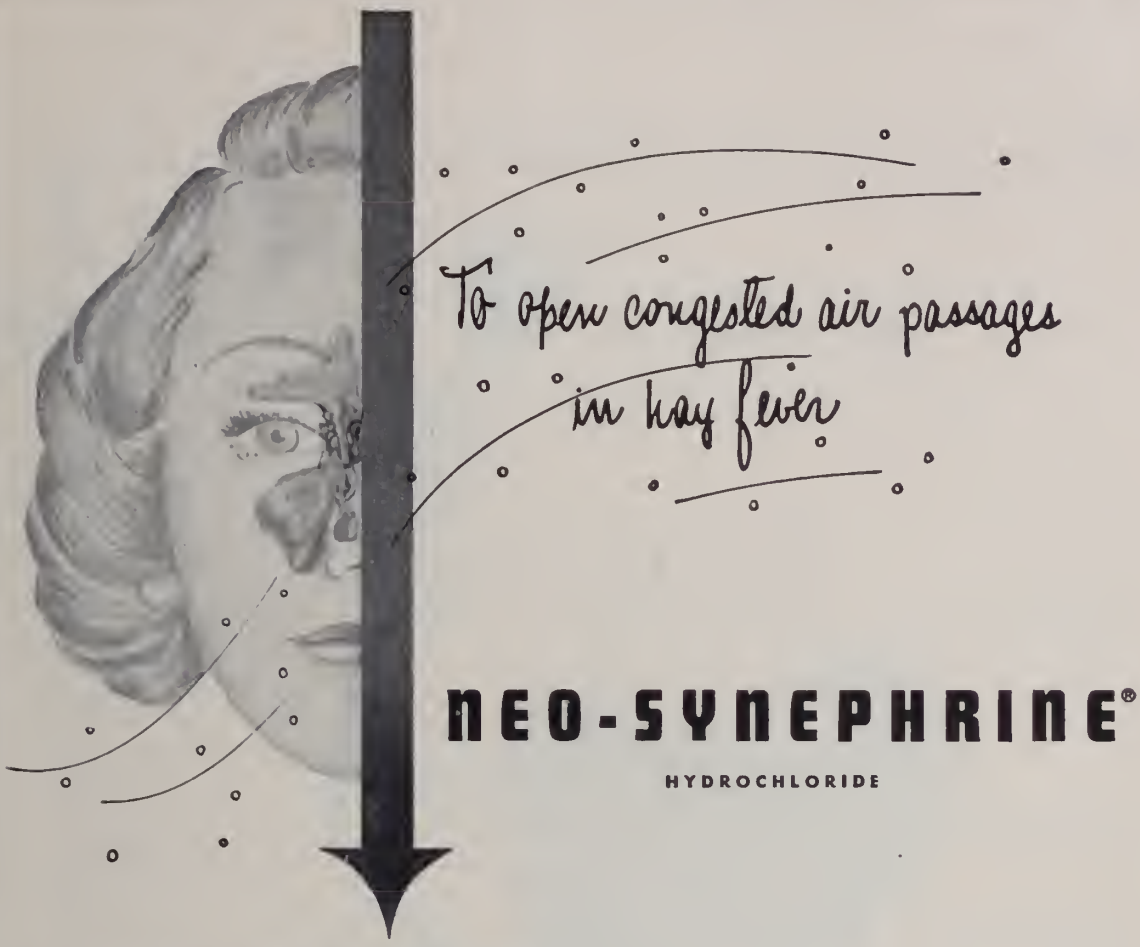

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1. Von Alyea, O. E., and Donnelly, Allen: *Arch. Otolaryng.*, 49:234, Feb., 1949.

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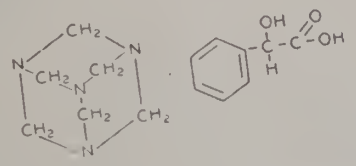

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AUGUST, 1953

Published Monthly
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MASSIVE MELENA

SURVEY OF 129 CASES SEEN AT CHARITY HOSPITAL FROM MARCH, 1950, TO DECEMBER, 1952

JAMES D. RIVES, M. D.
ROBERT O. EMMETT, M. D.
NEW ORLEANS

Hematemesis with or without the passage of blood by rectum sufficiently localizes the site of bleeding somewhere between the mouth and the ligament of Trietz. Melena, on the other hand, gives little indication of the site of the bleeding in many instances. If the site of the bleeding can be located the problem of treatment is not usually particularly difficult. This study is therefore concerned chiefly with the problem of diagnosis and localization of the lesions.

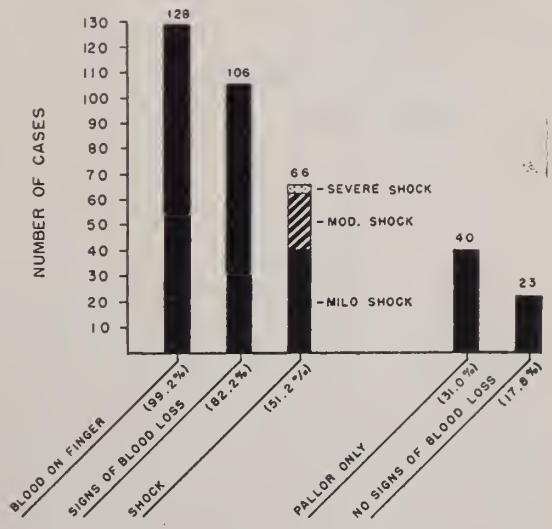
MATERIAL

Over a 33 month period, from March 25, 1950, to December 31, 1952, 4,377 patients were admitted to the surgical services of the Charity Hospital at New Orleans for acute abdominal complaints. Of these, 380 cases (8.7 per cent) were emergency admissions for sudden hemorrhage from the gastrointestinal tract. Of the latter group, 251 patients (66 per cent) had hematemesis with or without melena. One hundred and twenty-nine (34 per cent) had melena alone. These 129 cases form the basis of this report. During this period, 13 cases of intussusception were admitted to the hospital with melena as the chief complaint, but since they also had other symptoms suggestive of intestinal obstruction, or of other acute abdominal lesions, and since they constitute a special problem in themselves, they are not included in this study.

All of these patients were admitted as emergencies. Those with blood-streaked stools and all "piddling" bleeders were excluded. All of them had experienced gross melena within one day of admission, and all except one had blood on the examining finger. No patient was included who had vomited blood or who had coffee-ground gastric contents on aspiration. Chart I

CHART NO. I

ESTIMATIONS OF BLOOD LOSS



gives evidence of the severity of the blood loss. You will note that 106 patients (82.2 per cent) showed constitutional signs of blood loss, and that 66 (51.2 per cent)

*Presented at the Seventy-third Annual Meeting of the Louisiana State Medical Society, New Orleans, May 8, 1953.

From the Department of Surgery, Louisiana State University School of Medicine, and the L. S. U. Division of Surgery, Charity Hospital of Louisiana, at New Orleans.

showed evidence of shock, mild to severe. Only 11 per cent required no blood replacement; approximately one-third of all cases required 2,000 to 3,000 ccs. of blood, and in one instance 13,000 ccs. were required.

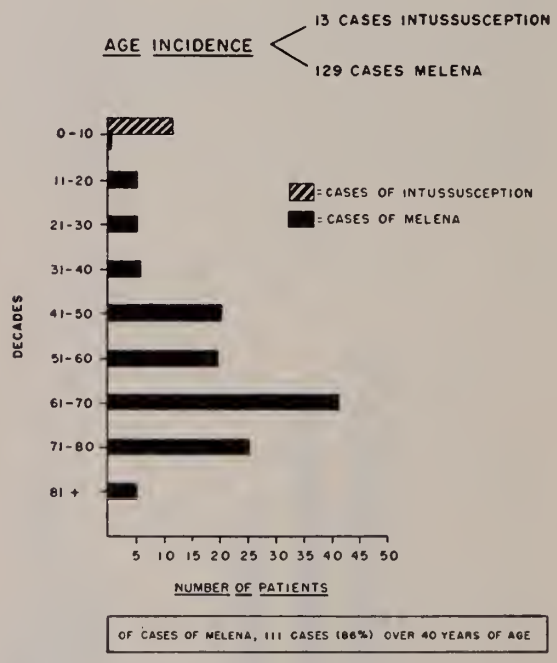
Fourteen patients of the total number died; an over-all mortality rate of 10.8 per cent. Eleven of the deaths (78.6 per cent) were in patients over 60 years of age.

There was a slight preponderance of males in this series, there being 76 cases or 58.9 per cent.

There was no significant difference in racial incidence.

The age incidence is much more significant. You will note that, if we disregard intussusception, gross melena was relatively uncommon before the age of 40 (Chart II). Eighty-six per cent of the cases were

CHART NO. II



over 40 years of age, and 55 per cent were over 60. It should be remembered that the period after 40 is also the period of the high incidence of degenerative diseases and the intercurrent diseases present in such patients add materially to the danger of the bleeding lesion.

SITE OF LESION

We regret to say that the incidence of correct diagnosis in our series is not a significant improvement over that reported by Harvey Stone[1] nine years ago (Chart III).

In almost one-third of these patients no diagnosis was ever made. In two-fifths of

CHART NO. III

COMPARISON OF HARVEY STONE'S SERIES (1944) AND PRESENT SERIES (1953)

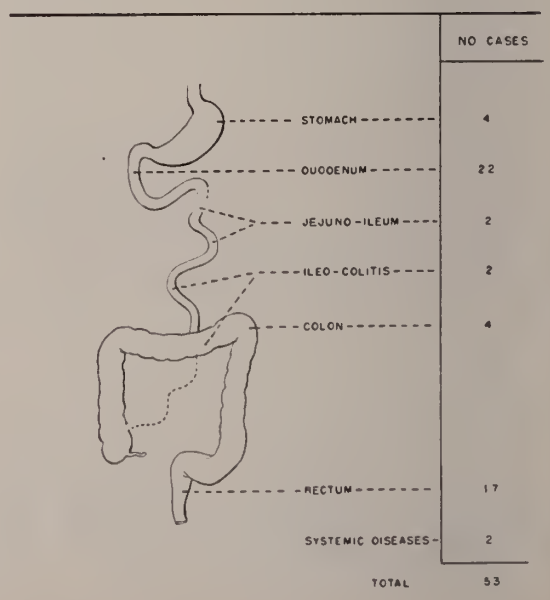
	STONE'S SERIES	PRESENT SERIES
SITES OF BLEEDING FOUND	21 CASES (28.4%)	53 CASES (41.1%)
EQUIVOCAL SITES	22 CASES (29.7%)	34 CASES (26.3%)
SITES NOT FOUND	31 CASES (41.9%)	42 CASES (32.6%)
TOTAL	74 CASES	129 CASES

them, the site was found definitely, and in an additional one-quarter a probable site or sites were found but were never proven beyond doubt. Forty-five of these patients were explored, and in 9 instances even at exploration the site of the bleeding was not determined. In 1 instance, even autopsy failed to disclose the cause and the location of the bleeding.

It is noteworthy that a majority of the lesions, the location of which was definitely demonstrated, were in the most accessible portions of the gastrointestinal tract Chart IV), that is, the gastroduodenal

CHART NO IV

SITES OF BLEEDING FOUND IN 129 CONSECUTIVE CASES OF MELENA



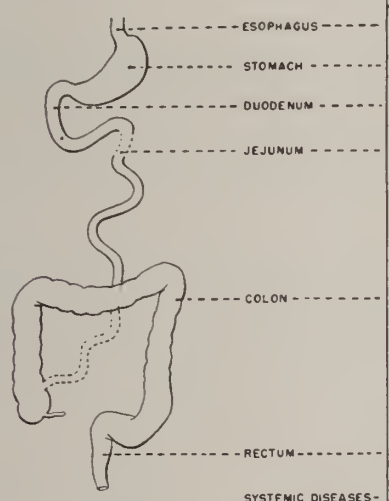
segment and the rectum. In 43 of the 53 patients in whom the site of the lesion was definitely demonstrated, it was found to be in one or the other of these sites. In only 8 instances was a lesion located definitely between the duodenum and the rectum. The difficulty of course lies in the fact that so far as symptoms are concerned, the jejuno-ileum and the right half of the colon are relatively silent, and that the jejuno-ileum is very difficult to visualize satisfactorily by x-rays.

There is a significant difference between the locations of the equivocal sites of bleeding and of those that are definitely proven (Chart V). In the first place, it is noteworthy that in this group of 34 patients, the total number of sites of bleeding believed to be found was 51. Only 18 of these were in the esophagus, stomach, and duodenum, as compared to 20 in the colon. This difference is accounted for by the difficulty of establishing a positive source of bleeding in the mid-portion of the gastrointestinal tract.

CHART NO V

EQUIVOCAL SITES OF BLEEDING ENCOUNTERED IN 129 CASES OF MELENA

TOTAL NUMBER OF PATIENTS IN THIS GROUP • 34
TOTAL NUMBER OF EQUIVOCAL SITES FOUND • 51



	NO. SITES
ESOPHAGUS	1
STOMACH	8
DUODENUM	9
JEJUNUM	3
COLON	20
RECTUM	3
SYSTEMIC DISEASES	3
DISEASES ADJACENT TO GI TRACT	4
TOTAL NO. SITES	51

DIAGNOSIS

Charts VI and VII show the specific lesions responsible for the hemorrhage in all cases in which the cause was believed to be found. Several points are worthy of comment: In the first place, it should be noted that the lesions were benign in 85 of the 101 cases (84.2 per cent). It should be remembered that while bleeding is common in malignant lesions it is quite infrequently massive. Second, duodenal ulcer is the most common of all lesions causing melena in this series. Third, the most common cause of bleeding from the colon in this series was diverticulosis, which was proven or believed to be the cause in 21 cases, second

CHART NO VI

SITES OF BLEEDING FOUND* IN 129 CONSECUTIVE CASES OF MELENA

	TOTAL		TOTAL
I STOMACH A CARCINOMA – 4	4	V COLON A CARCINOMA – 2 B DIVERTICULOSIS – 2	4
II DUODENUM A ULCER – 22	22	VI RECTUM A CARCINOMA – 5 B PROCTITIS – 4 C POLYPS – 2 D HEMORRHOIDS – 2 E POSTOP HEMORRHOIDECTOMY – 2 F POST-BIOPSY BLEEDING – 1 G CARCINOMA PROSTATE WITH RECTAL INVASION – 1	17
III ILEUM A MECKEL'S DIVERTICULUM – 1 B MESENTERIC THROMBOSIS – 1	2		
IV ILEO-COLITIS A TUBERCULOUS – 1 B NONSPECIFIC – 1	2	VII SYSTEMIC DISEASES A UREMIA – 1 B LEUKEMIA – 1	2

*53 PATIENTS IN THIS GROUP

CHART NO VII

EQUIVOCAL SITES OF BLEEDING ENCOUNTERED IN 129 CONSECUTIVE CASES OF MELENA

TOTAL NUMBER OF PATIENTS IN THIS GROUP = 34
TOTAL NUMBER OF EQUIVOCAL SITES FOUND = 51

	TOTAL		TOTAL
I ESOPHAGUS A VARICES – 1	1	V COLON A DIVERTICULOSIS – 19 B. COLITIS – 1	20
II STOMACH A ULCER – 2 B PROLAPSE OF MUCOSA – 2 C GASTRITIS – 1 D CARCINOMA – 1 E DIVERTICULUM – 1 F HIATAL HERNIA – 1	8	VI RECTUM A HEMORRHOIDS – 1 B PROCTITIS – 1 C FECAL IMPACTION – 1	3
III DUODENUM A ULCER – 5 B DIVERTICULUM C DUODENITIS	9	VII DISEASES ADJACENT TO GI TRACT A CARCINOMA PANCREAS – 1 B CHRONIC PANCREATITIS – 1 C CARCINOMA PROSTATE WITH RECTAL INVASION – 1 D GALLSTONES – 1	4
IV JEJUNUM A MARGINAL ULCER – 2 B DIVERTICULOSIS – 1	3	VIII SYSTEMIC DISEASES A UREMIA – 2 B PSEUDOHEMOPHILIA – 1	3

14 PATIENTS HAD TWO OR MORE SITES OF BLEEDING

only to duodenal ulcer. It is true that in 19 of these cases the fact that diverticulosis was the cause of bleeding was never positively established; however, we are confident in our own minds that our diagnosis was correct. Fourth, we would like to call attention to the fact that there were 3 cases of uremia and 2 of blood dyscrasias in this group and that while the number is small they are difficult to prove and must always be kept in mind in the course of a diagnostic study.

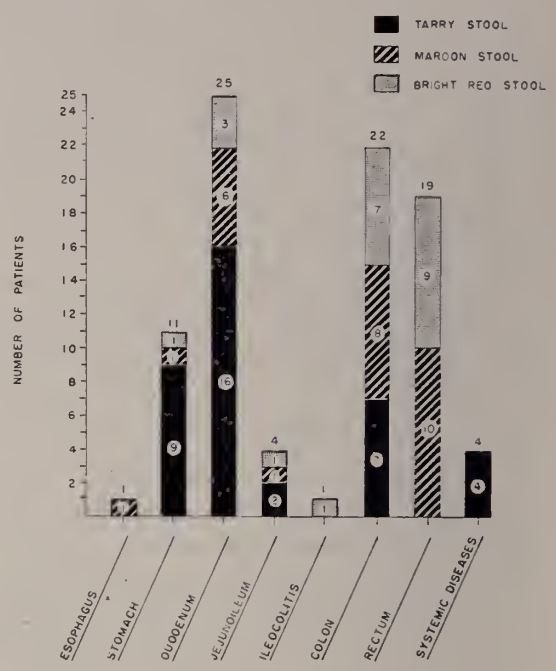
We are deeply concerned about the fact that in a third of all our cases we were unable at any time to establish a source of bleeding and have therefore made an earnest effort to see where our deficiencies lay. We have tried to evaluate the various methods by which a diagnosis can be arrived at, and to see by what means we can improve our accuracy.

A previous history of melena, especially if it occurred one or more years previous to the present episode makes it probable that the lesion is benign. A history of previous gastrointestinal surgery frequently gives an important clue to diagnosis, especially if the previous surgery entailed closure of a perforated peptic ulcer or a gastrojejunal anastomosis. However, in 45 (34.8) per cent of our cases, there had been no previous episodes, and the diagnosis had to be established on the basis of this particular occasion alone.

We have all believed that the color of the stool was an important clue to the level of the lesion in the gastrointestinal tract, and our figures show that this is true. However, there are some notable exceptions, as will be seen in Chart VIII. You will note that in the 22 cases of bleeding from the duodenum, 2 showed bright blood and 5 showed maroon colored blood in the stools. Fifteen showed tarry stools, as one would expect. It is noteworthy also that in the cases of bleeding from the rectum, one-half of the total showed maroon colored blood. It is evident that whereas the color of stool is a valuable evidence of the location of the lesion, it cannot be accepted as positive proof.

CHART NO VIII

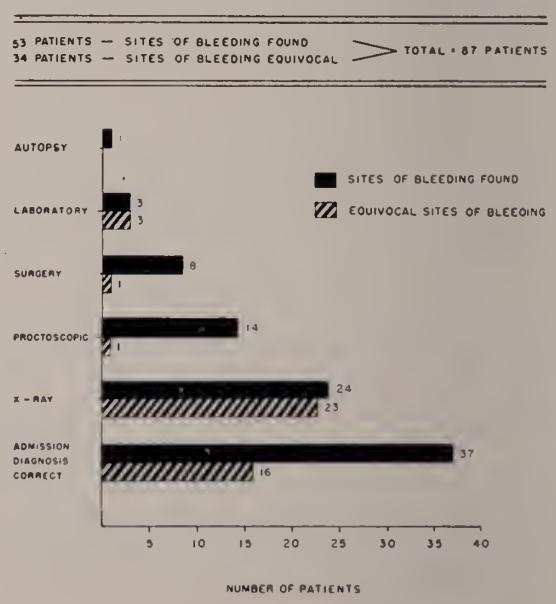
COLOR OF STOOL AND LEVEL OF LESION IN 87 CASES OF MELENA (PROVEN AND EQUIVOCAL SITES)



In Chart IX we have attempted to evaluate the various methods which have been used in this group of cases. In the 87 patients in whom a probable diagnosis was established we consider that the most signi-

CHART NO. IX

RELATIVE VALUES OF METHODS OF DIAGNOSIS



ficant observation is the fact that in 53 of the 87 cases (60.9 per cent) the admission diagnosis was ultimately proven to be correct. It is evident that a good history and physical examination constitute the most valuable information that one can have in establishing a diagnosis of the cause of melena. In considering the value of other methods of diagnosis, it must be remembered that there is an overlap here, in that many of the cases in which the admission diagnosis was correct were finally proven by other means and will therefore appear credited to x-ray, proctoscopic examination, or other methods.

Next in importance to the history and physical examination in this series comes the x-ray, since by this means the diagnosis and location of the lesion were established in 47 cases. These were largely in the gastroduodenal segment.

Proctoscopic examination is of course invaluable. You will note that the diagnosis was established by this means in 15 cases in spite of the fact that there were only 21 cases in which the lesion was located in the segment accessible to the proctoscope.

Surgical exploration proved to be a very unsatisfactory means of establishing the diagnosis in our hands. Forty-five patients were operated upon, and in 32 the diagnosis was established by this method. However, in most instances, it was already known before operation. Seventeen cases in which the diagnosis was not known were explored, and in only 8 of these was the diagnosis established by the operation, whereas in the remaining 9 it was never found.

You will see that the clinical laboratory gave us very little help as it established the diagnosis in only 6 cases, most of which were constitutional diseases. Only 2 cases were autopsied, and in one of these the diagnosis was not established.

Out of our experience we have evolved a method of procedure which we think might be of interest to the reader. When a patient presents himself to us with a story of bleeding from the rectum, we employ the following routine:

1. Our first procedure is to estimate the amount of constitutional effect of hemorrhage. That is, check the blood pressure and other evidences of shock. If shock is found to be present, proper measures, including blood transfusion, are instituted to correct it.

2. We make a digital examination of the rectum to determine whether or not blood is actually present there.

3. If the cause of hemorrhage is not obvious after the preliminary examination, a Levin tube is inserted into the stomach to determine whether or not blood can be found in the upper gastrointestinal tract.

4. A history is taken and a limited physical examination is made. You will remember that in our experience this has resulted in a correct diagnosis more often than any other method that we have used. Physical examination is limited to a superficial examination of the heart and lungs, blood pressure, and to palpation and auscultation of the abdomen.

5. Routine laboratory studies. These should include: (a) A complete blood picture. Evidences of leukemia or of thrombocytopenic purpura should be especially looked for. A total red blood cell count and a hematocrit will indicate, roughly at least, the amount of blood loss. (b) A rush blood chemistry should be made, including especially a non-protein nitrogen, or a blood urea nitrogen determination for evidence of uremia. It should be remembered that in the presence of large quantities of blood in the gastrointestinal tract, these tests are likely to show high values. However, they are not usually high enough to confuse the diagnosis with that of a true uremic state.

6. Next, if the evidence points to bleeding from the upper gastrointestinal tract, such as a history of peptic ulcer for example, one must consider the possibililty of x-ray studies of the gastroduodenal segment, even during the bleeding period. This is a controversial matter, and we have until recently avoided such examinations during this period, but have come to believe that they have a real value. They cannot be considered absolutely conclusive, be-

cause of the fact that the gastrointestinal tract containing blood clots may not give clear pictures.

7. If the evidence points to anything below the gastroduodenal segment, sigmoidoscopic examination should be done. It must be remembered that the rectum is likely to contain large quantities of feces, including blood, and that suction and other means of cleaning the rectum in order to permit satisfactory examination must be available.

8. If none of the above examinations have demonstrated the location of the bleeding beyond doubt, a barium enema should be resorted to. You will have noted from our experience that massive bleeding from the rectum is not frequently seen in carcinoma, and that the lesion is more likely to be of some other type. As a matter of fact, in our experience it has been most frequently diverticulosis and diverticulitis. If evidence of acute diverticulitis is present, it may be wise to defer the examination by barium enema, but if there is no evidence of acute local peritonitis and the examination is made by an experienced and cautious observer, this examination is safe and may yield valuable evidence.

9. If the cause of bleeding has still not been demonstrated, a complete gastrointestinal study by x-ray may be undertaken. It must be remembered of course that in the presence of massive hemorrhage this cannot be done, and I am speaking only of those cases in which the situation is well in hand.

10. Finally, if the diagnosis cannot be established by any other means, one may be forced to resort to surgery. But I would call your attention to the fact that in our experience, and this is not dissimilar to that of other observers, this is a very unreliable method for determining the location of gastrointestinal bleeding.

CONCLUSIONS

1. By far the most important diagnostic tool at our command is an adequate history and physical examination.

2. X-ray is much the best method of locating lesions that cause melena, especially in the gastroduodenal segment. We believe also that the use of x-ray during the period of active hemorrhage from lesions apparently in the upper gastrointestinal segment is justified and its use should be increased. X-ray is almost equally valuable in the colon above the rectosigmoid junction, and the chief reason that we do not have as many positive diagnoses by this means as we do in the upper segment is because in many instances the lesion could not be proven to be the cause of the bleeding. Also, most lesions that are readily demonstrable by x-ray in the colon do not usually produce gross hemorrhage.

3. Proctoscopic examination, or rather sigmoidoscopic examination, is practically infallible in lesions of the rectum and rectosigmoid junction, whereas x-ray is of little value in this segment.

4. Surgical exploration is a very poor means of establishing the location and the type of lesions causing melena, and should be resorted to very infrequently.

5. The clinical laboratory, while it established the diagnosis in only a few instances, is an essential part of the diagnostic material because of the fact that it can establish the existence of constitutional diseases in which the site of the bleeding may be impossible to identify.

6. It is probable that a high percentage of the cases in which no cause of bleeding was ever proven were in the small bowel, below the duodenal-jejunal junction. It is highly desirable, therefore, that means of x-ray study of the small bowel be improved. The technique of introducing a long tube into the small bowel and by means of repeated aspiration and serial x-ray studies trying to locate the site of bleeding in the small bowel is one that deserves widespread investigation.

REFERENCES

1. Stone, H. B.: Large melena of obscure origin. Ann. Surg., 120:582, 1944.

ELECTROCARDIOGRAPHIC CHANGES WITH SPONTANEOUS MEDIASTINAL EMPHYSEMA

JOE E. HOLOUBEK, M.D.
SHREVEPORT
E. R. MOSER, M.D.
GLADEWATER, TEXAS

Mediastinal emphysema was first accurately described by Laennec[1] in 1819. Since then there have been many excellent reviews in the literature[2-8] describing the pathogenesis, signs, symptoms, and differential diagnosis.

With the more frequent use of all of the laboratory tests, more cases have been reported showing electrocardiographic changes. Fagin and Schwab[5] in their review of 39 cases, report electrocardiograms in 19 cases. Of these, 11 were normal, 2 showed low right axis deviation, 2 low voltage in leads one ond two, and 2 showed left axis deviation. Aisner and Franco[2] report that approximately 25 per cent of the cases show positive electrocardiographic findings but no characteristic pattern is present. T wave changes, deviation of ST shifts, changes in voltage, and axis deviation are the most common. Occasionally an altered rhythm is found. Simulation of a coronary attack must be considered and watched. The following is a case report that so closely resembled a coronary occlusion both clinically and by the electrocardiogram that it is reported:

CASE REPORT

A fifty-two year old white male had had a previous history of doudenal ulcer, chronic bronchitis and sinusitis, and recurrent cystitis. At noon on February 24, 1951, he was found unconscious in his office. He had started to vomit and suddenly collapsed and was taken to the hospital. Examination revealed auricular fibrillation, unobtainable blood pressure, cold clammy sweat, and marked dyspnea.

Electrocardiogram was taken immediately after that and revealed a downward shift in lead 1, upward shift in leads 2 and 3 and downward in lead 4. (Fig. 1-A). He was given oxygen, stimulants, and general supportive measures. His pulse gradually became perceptible. By five o'clock he regained consciousness, the blood pressure reached normal level, and dyspnea and vomiting had stopped. A recheck electrocardiogram (Fig. 1-B) showed marked changes from the one taken five hours previously. Emphysematous blebs appeared

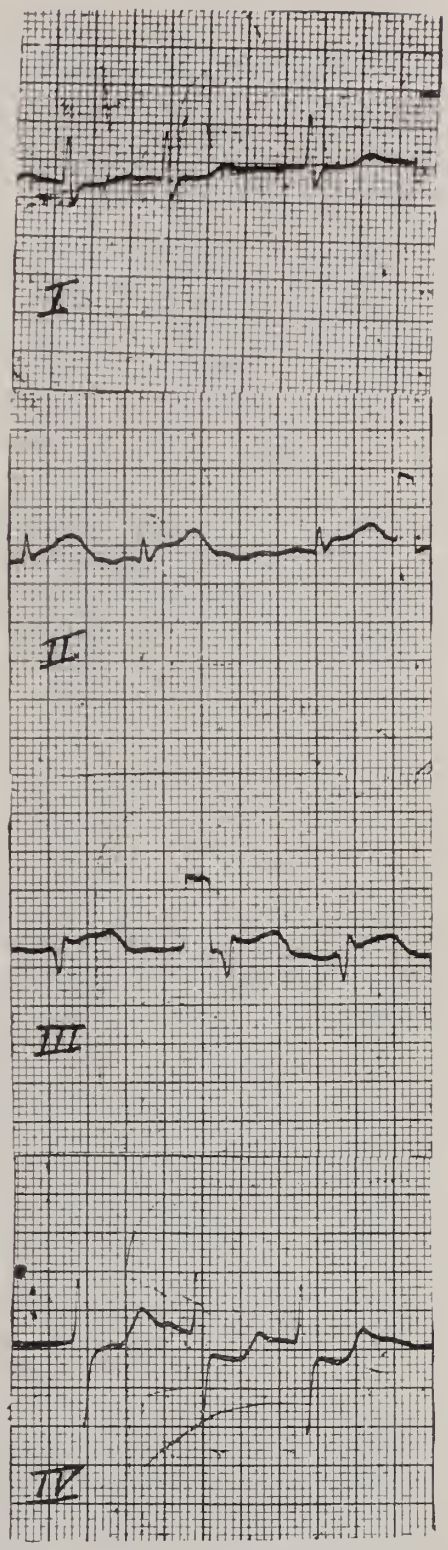


Figure 1-A.—February 24, 1951, 12:00 Noon

on the soft palate about this time and there was beginning of subcutaneous emphysema on the neck and upper border of the chest wall. Oxygen and sedation were continued throughout the night. The

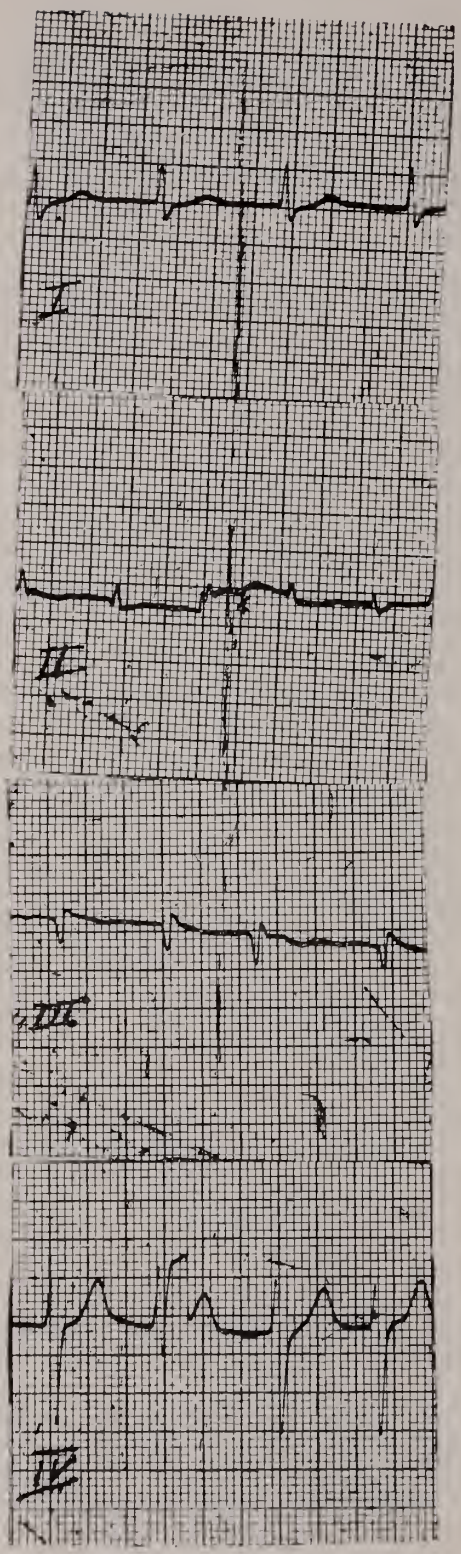


Figure 1-B.—February 24, 1951, 5:00 P. M.

following morning the heart rate was regular, the patient was comfortable and out of shock. There was marked fullness and crepitation in the neck. The blebs in the soft palate were larger. The electrocardiogram (Fig. 1-C) now was identical to the one which we had taken one year previously. He was able to talk, but had marked flushing of the face. The lungs were clear. There was no abdomi-

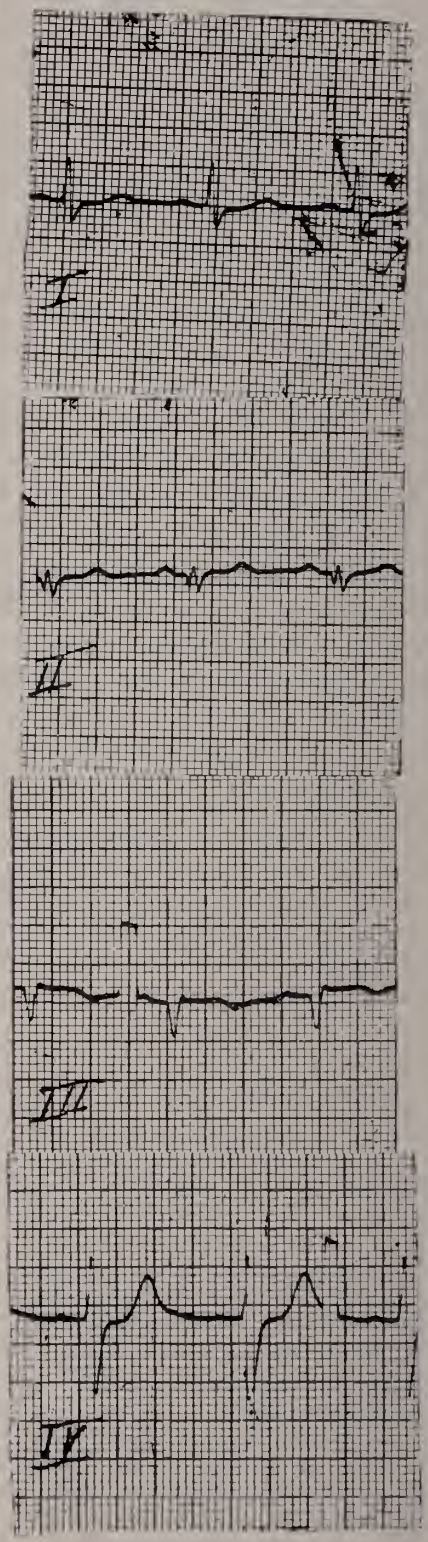


Figure 1-C.—February 25, 1951, 7:00 A. M.

nal distention. The diagnosis of spontaneous mediastinal emphysema was made. This was confirmed by roentgenogram of the chest. The emphysema became progressively worse. In three days it became so severe that a tracheotomy was required to relieve tracheal obstruction. When the skin incision was made, the patient deflated like a balloon. After that he improved rapidly. The tracheotomy tube was removed in several days and he was allowed to go home in two weeks. He lost 18 pounds of weight. Repeated rechecks have shown that the x-ray of the chest is now normal except for some slight thickening in the right hilar region. Blood pressure is 130/90. Electrocardiogram is similar to the one taken on February 25, 1951.

DISCUSSION

This case illustrates the difficulty in differentiating the clinical picture of early spontaneous mediastinal emphysema from acute coronary occlusion. Careful clinical observation and a suspicion of mediastinal emphysema will aid in making the proper differentiation.

SUMMARY

A case of spontaneous mediastinal emphysema with the findings of transitory injury and ischemia shifts on the electrocardiogram and with auricular fibrillation is presented.

REFERENCES

1. Laennec, R. T. H.: A Treatise on the Disease of the Chest and in Medical Auscultation, translated from the Third French Editlon by, John Forbrs, New York; Samuel, S. & Winn, Wood, 1938.

2. Aisner, March, and Franco, John E.: Mediastinal emphysema, New England M. J., 391:818, (Nov. 24) 1949.

3. Evans, John A., and Smalldon, Ted R.: Mediastinal emphysema, Am. J. R. & Radium Therapy 64:3 (Sept.) 1950.

4. Schwartz, Bernard M., Flory, George H., and Warren, Harry A.: Acute mediastinal emphysema, Am. J. Med. 25, 663, (Oct.) 1946.

5. Fagin, I. Donald, and Schwab, Edward H.: Spontaneous mediastinal emphysema, Am. Int. Med. 24:1052, (June) 1946.

6. Dickie, Helen A.: Spontaneous mediastinal emphysema and spontaneous pneumothorax, Ann. Int. Med. 28:618, (March) 1948.

7. McCabe, Edward S.: Spontaneous interstitual emphysema of the lung simulating organic heart disease, Am. Heart J. 34:729 (Nov.) 1947.

8. Klein, Arthur: Spontaneous mediastinal emphysema with acute right ventricular strain, Am. Heart J. 33:867, (June) 1947.

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HEART DISEASE IN CHRONIC ARSENIC POISONING

CLINICAL REPORT OF TWO CASES

R. L. ROBBINS, M. D.

ALEXANDRIA

INTRODUCTION

In the practice of medicine, the physician often sees manifestations of disease that have never been previously documented as to cause. It is because of these unusual cases, if reported and documented, that new disease entities are from time to time made known to the profession. It is unusual, however, for medical science to have well documented evidence of an etiological agent, but at the same time no adequate clinical description of the illness so produced.

While there are several references in American medical literature to the ability of arsenic to cause heart disease, myocardial depression, and specific pathology of the heart muscle and its linings, these references do not describe the resulting clinical picture so produced.[1-4] The following cases are reported in an attempt to depict the clinical manifestations of chronic arsenic poisoning with particular reference to the diseased heart, and by so doing, to describe a unique group of symptom manifestations not, to my knowledge, hitherto described.

CASE HISTORIES

Case No. 1. A 50 year old colored male cotton farmer was first seen in the hospital in December 1946. He gave the history of having dusted cotton repeatedly, from 1923 through 1939, with a compound that contained arsenic. During those years he had recurrent but mild episodes of vertigo, weakness, nausea and vomiting. In 1946, he again was exposed to arsenic, but this time only briefly, and could not have inhaled any of the dust. He developed nausea, vomiting, diarrhea, anorexia, and generalized abdominal cramps. These symptoms were followed several days later by sore throat, hoarseness, swelling of the face and neck, and paroxysmal nocturnal dyspnea. His feet had become swollen and his abdomen distended. He was afebrile.

When admitted to the hospital he was found to have edema of the soft palate and of the pharynx, and there was swelling about the face and neck. His blood pressure was 115/70. A mild catarrhal conjunctivitis was present. There were no unusual exudates or membranes in the mouth or throat, and there were no abnormal physical findings on examination of the heart and lungs. The liver was slightly enlarged.

Laboratory findings included a moderately severe macrocytic anemia. A BSP excretion test showed excretion of 75 per cent of the dye in two hours. A Fishberg concentration test showed that the specific gravity of the urine was fixed at 1.010. There was no albuminuria or hematuria. Blood urea nitrogen levels, serum protein levels, and serologic tests for syphilis were all normal. An x-ray film of the chest revealed pulmonary congestion but was otherwise normal. The initial electrocardiogram

showed a prolonged QT interval and a diphasic T2 and inverted T3. A subsequent tracing taken five days later showed a normal QT interval. Venous pressure in the right anticubital vein was 200 mm. of water. Cultures taken from the nose and throat were sterile for diphtheria bacilli. The patient was treated with digitalis, penicillin, and, empirically, diphtheria antitoxin, and slowly improved.

From 1947 through 1952, the patient was hospitalized nineteen times. He never fully recovered from the episode in December 1946. Since that time he had developed progressively worsening paresthesias, and a generalized pigmented, maculate rash. There was thickening of the skin of feet and excessive callous formation of the palms and soles. He was seen by several dermatologists and the diagnosis of chronic arsenical dermatitis was pronounced. There was no response to multivitamin therapy or BAL. In 1949, four years after the last known exposure to arsenic, a twenty-four hour urine specimen was found to contain no arsenic. Specimens of hair and nails were not examined at that time. The cardiac symptoms persisted, and by 1949, had progresed to such degree that the patient was classified as a functional class IV cardiac. Serial chest x-rays showed recurrent pulmonary congestion but no cardiomegaly. Serial electrocardiograms repeatedly showed nonspecific evidence of myocardial disease usually manifest by abnormal T waves. There was no clear cut response to digitalis, although it was used continuously.

In March 1952, the patient was once again hospitalized because of his congestive failure and painful feet. There was a moderately severe macrocytic anemia present. The urinalyses again showed low specific gravities, varying from 1.005 to 1.012, and occasional albuminuria. Physical examination of the heart and lungs revealed no new findings. His blood pressure varied from 110/70 to 135/90. Sternal marrow studies were considered normal on several occasions.

Case No. 2. This 40 year old colored male laborer was employed by an oil field equipment company in 1948. His job required that he clean drilling bits and other equipment used in oil rigs. He would take a white powder, the composition of which was unknown to him, and mix it with water, after which he would place this solution in a closed container, light a fire under it and expose the tools to be cleaned to the steam which was produced. A compound of hydrochloric acid and arsenic had previously been placed on the equipment to be cleaned. The patient used neither protective clothing nor a mask during this procedure.

In September 1948, having been thus employed for about eight months, he noted the onset of nausea, vomiting, anorexia, giddiness, and excessive salivation. Two months later he developed an erythematous eruption about the hands and feet, associated with paresthesia in these areas. The rash slowly spread until it involved his entire body. He developed bilateral conjunctival erythema and excessive lacrimation.

He was first seen in the hospital in May 1949. At that time he was found to have a generalized scaling pigmented maculopapular rash most marked over the hands and feet, with marked thickening of the palms and soles. There was chronic granular conjunctivitis bilaterally. He had albuminuria. A Kolmer blood test for syphilis was positive. There were no abnormal cardiac findings. The remaining findings were not remarkable. He was diagnosed as having had dermatitis venenata, treated with benadryl, penicillin, and boric acid compresses, and discharged. He denied previous antiluetic treatment of any type.

He was seen again in September 1950. His symptoms as described above had all persisted. In addition, the burning pains in his feet had gotten progressively worse until he could no longer stand or walk. He again experienced nausea, vomiting, and abdominal distress. His gums had become swollen and painful, and his teeth loosened. His appetite was good and his diet was considered adequate. He had begun to drink excessively "because of the pain." He had no cardiac symptoms.

On that admission to the hospital it was found that the rash and the conjunctivitis, were still present. There was a glove and stocking type of distribution of the paresthesia. His blood pressure ranged around 135/70. There was slight cardiac enlargement on admission, but no murmurs, and the liver was enlarged 2 cm below the costal margin, but was not tender. Hyperkeratosis of the palms and soles was rather striking. The tendon reflexes were generally hypoactive. The Kolmer test was again positive. Liver function studies showed a four plus cephalin flocculation test; however, the total serum bilirubin and prothrombin time were normal. A spinal fluid survey was normal. The electrocardiogram showed low T waves in leads 1, 2, V5, and V6. A complete peripheral blood study revealed a moderately severe macrocytic anemia, leukopenia, and thrombocytopenia. The bone marrow showed depression of all formed elements, but was not megaloblastic. The gastric juice contained free acid. A biopsy of the skin from the right calf was interpreted as being compatible with arsenical dermatitis. Specimens of the patient's hair and nails were found to contain 33.9 parts per million of arsenic, and a twenty-four hour urine specimen contained 0.006 parts per million of arsenic*. Treatment consisted of bed rest, penicillin, and BAL given intramuscularly, twice daily for fifteen days. There was slight but notable improvement in the paresthesia and the cardiac size diminished as recorded by x-ray. He was dis-

*Tests performed by the Toxicological Section, Louisiana State Department of Health.

charged with the diagnosis of chronic arsenical intoxication.

In October 1951, he was again hospitalized because of return of all symptoms. During the previous months he had returned to his old job with the tool company. The skin rash, conjunctivitis, hyporeflexia, and hyperkeratosis were again noted, and the blood Kolmer was still positive. A blood Kahn test for syphilis was, however, negative. The blood pressure, urinalysis, and peripheral hemogram were normal. The heart was not enlarged, and no murmurs were heard. He received BAL daily for twenty-seven days, together with a high caloric diet and multiple vitamin supplements. His clinical response was not gratifying and he was discharged.

He was again hospitalized in March 1952. At that time he had ascites, pedal edema, abdominal cramps, diarrhea, and a chronic cough productive of thin white sputum. He had developed exertional dyspnea and palpitations, but no chest pain. The important findings on that admission were as follows: Blood pressure 110/60. The generalized skin rash, hyperkeratosis, conjunctivitis, gingivitis and loose teeth were still present. There were crepitant rales at both lung bases. The heart was again slightly enlarged, and an unequivocal pericardial friction rub was present which persisted for several days. There were no cardiac murmurs. The liver was enlarged 4 cm. below the costal margin and was tender. There were ascites, edema of the lower extremities up to the level of the knees, and the tendon reflexes were absent. There again was depression of all formed elements in the peripheral blood. Abuminuria was constantly present and there was a fixed low specific gravity of the urine. The blood urea nitrogen level was 14.6 mgm. per cent. The Kolmer test was positive and the Kahn was negative. Studies of liver function revealed abnormal retention of bromsulfalein; however, the cephalin flocculation test, thymol turbidity, and total serum bilirubin, were normal. The electrocardiograms at no time were diagnostic of pericarditis, or of myocardial infarction; however, there were persistently low T waves in leads 1, 2, 3, V4, V5, and V6. Extensive studies for tuberculosis were all negative.

The patient was treated with digitalis, low sodium diet, and mercurial diuretics, and responded fairly well. He was discharged from the hospital and followed in the outpatient clinic. Six months after discharge he had developed no signs of pericardial effusion; however, signs and symptoms of chronic congestive failure persisted.

DISCUSSION

The classical findings of chronic arsenic poisoning were well demonstrated in both of these patients. Focal edema, paresthesia, nausea, vomiting, diarrhea, abdominal cramps, excessive salivation, hyperkeratosis, and abnormal pigmentations were all present at one time or another. In addition, a generalized skin eruption was present which appeared identical in both men. The exposure to arsenic was established in the past histories of both patients, and arsenic was recovered in the urine, hair, and nails of the patient whose exposure to the poison was most recent.

The etiology of the heart disease that was present in each of these men was never adequately explained despite extensive and repeated examinations. Neither patient was ever found to be hypertensive, nor was there any hypertensive retinopathy. There was no evidence of valvular pathology demonstrable, nor was there any cardiac mechanismal disturbance. Both of these patients showed evidence of congestive rather than anginal failure as the primary manifestation of their heart disease. Although in one patient, the serologic tests for syphilis suggested lues, the absence of clinical and radiographic evidence of valvular and aortitic pathology precluded the diagnosis of luetic heart disease. Both patients received massive and repeated courses of multivitamin therapy with no improvement of their cardiac status. Neither patient at any time could be shown to have tuberculosis despite extensive laboratory studies. One patient was given antidiphtheria antitoxin on his initial admission to the hospital because of the edema of the pharynx and soft palate, but there was no membrane present, and cultures were sterile for diphtheria bacilli. It is interesting to note that the pharyngeal edema which caused the house staff to suspect diphtheria, was actually the most classical symptom of early chronic arsenical intoxication that this patient exhibited.

Since chronic congestive failure due to arsenic poisoning has never been described, it is not justifiable to attribute dogmatically the presence of this condition in the above cases to such cause, even though it has been previously shown that such poisoning can produce pathological changes in the heart, compatible with those symptoms herewith reported. The occurrence in both patients of congestive failure, hyperkeratotic dermatitis, peripheral neuritis, and macrocytic

anemia, suggests the presence of an unusual and bizarre symptom complex associated with exposure to arsenic.

SUMMARY

Two patients with chronic arsenic poisoning were found to have heart disease, the etiology of which was obscure. The possibility of the existence of chronic heart disease due to arsenic poisoning is suggested and the clinical characteristics described.

REFERENCES

1. Herrmann, G. R.: Synopsis of Diseases of the Heart and Arteries, 1944, C. V. Mosby Co., St. Louis.
2. Nomenclature and Criteria for Diagnosis of Disease of the Heart, 1942, New York Heart Association, New York.
3. White, P. D.: Heart Disease, 531-532, 3rd Ed., 1945, The MacMillan Co., New York.
4. Goodman, L., and Gilman, A.: The Pharmacological Basis of Therapeutics, 737, 1941, The MacMillan Co., New York.

DIAGNOSIS OF TUBERCULOSIS BY ISOLATION OF *M. TUBERCULOSIS* IN THE YOLK SAC OF THE CHICK EMBRYO*†

G. JOHN BUDDINGH, M. D.
JOHN W. BRUECK, M. S.
NEW ORLEANS

The bacteriological diagnosis of tuberculosis may be established within four to six days by the chick embryo method. McNelly and Riddell[1] concluded that the culture of *M. tuberculosis* in embryonated eggs is possible as a routine procedure on the basis of results obtained from the inoculation of 125 concentrated sputum specimens on the chorioallantoic membrane and into the yolk sac. Dubos, *et al*,[2] Eggerth, *et al*,[3] and Lee[4] have demonstrated that pure cultures of *M. tuberculosis* proliferate with great rapidity in the embryo yolk sac.

The present investigations developed from previous experience with the rapid growth of pathogenic fungi in the yolk sac of the chick embryo.[5] A chance observation that acid fast bacilli could be demonstrated in smears from the yolk sac four days after inoculation with a biopsy specimen initiated further inquiry into the adaptability of the method for the laboratory diagnosis of tuberculosis. The preliminary studies which explored the potentialities of the method have been reported recently.[6]

A comparative study was undertaken to determine the sensitivity and reliability of the chick embryo yolk sac for the rapid isolation of *M. tuberculosis*. The well recognized susceptibility of the guinea pig to infection with *M. tuberculosis* served as a standard of comparison. The specimens to be tested were collected by staff members from patients on the various clinical services of Charity Hospital of Louisiana at New Orleans. Specimens in which acid fast bacilli could be readily demonstrated by direct microscopic examination were not used in the study. This report will be concerned with a careful comparison of results obtained by injecting guinea pigs and the yolk sac of embryonated eggs with 168 specimens of various types for the isolation and identification of *M. tuberculosis*. Petrik's media was also inoculated with each of the specimens. This method of isolation was found to be less sensitive than the guinea pig inoculation and therefore was not used as a standard for comparison.

METHODS

PRELIMINARY TREATMENT OF SPECIMENS

Spinal fluid: Four to 6 cc. are required for each test. Aseptically collected specimens require no preliminary treatment. Divided into 3 equal portions, one portion is distributed equally by injection into the yolk sac of 6 embryos, another injected into a guinea pig and the remaining one is divided equally over the surface of the slant of each of 2 tubes of Petrik's media.

Pleural, Pericardial, Peritoneal, Joint Effusions or Exudates: Specimens more than 10 cc. in volume are centrifuged at 3000 r.p.m. for thirty to sixty minutes. The sediment is resuspended in 5 to 6 cc. normal sterile saline containing 10 units penicillin and 6 micrograms chloromycetin per cc. The yolk sac of 6 embryos, a guinea pig and 2 Petrik's media slants each are inoculated with one of three equal parts of the inoculum. Volumes smaller than 10 cc. are

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From the Department of Microbiology, Louisiana State University School of Medicine, New Orleans.

†Aided by grants from Eli Lilly and Company.

inoculated directly without concentration by centrifugation.

Gastric Washings, Sputum: Equal parts of 4 per cent sodium hydroxide are added to each specimen, thoroughly mixed, and then incubated at 37 C. until all mucus and visible particles are dissolved. After centrifugation at 3000 r.p.m. for thirty to sixty minutes the supernatant is discarded. The sediment is brought to *p*H 7 with 6 per cent hydrochloric acid, using litmus or nitrazine paper as indicator and resuspended to 5 or 6 cc. in normal saline containing 10 units penicillin and 6 micrograms of chloromycetin per cc. One of each 3 equal parts of this suspension serves for inoculation of embryo yolk sac, a guinea pig and 2 slants of Petrik's media.

Tissues: Biopsy specimens, tissues obtained at autopsy or bone marrow aspirates are ground in a sterile mortar with sterile alundum. Sufficient sterile normal saline containing 10 units penicillin and 6 micrograms chloromycetin to provide a manageable suspension is added and then lightly centrifuged to separate the alundum and coarse particles. Embryo yolk sacs, a guinea pig, and 2 slants of Petrik's media are inoculated with an equal portion of the supernatant.

Pus: Uncontaminated specimens are injected without preliminary treatment. If contaminating bacteria are demonstrable in Gram stained smears penicillin and chloromycetin in appropriate amounts are added.

Urine: Urine samples are centrifuged at 3000 r.p.m. for one hour. The sediment is resuspended in 6 cc. sterile normal saline containing 10 units penicillin and 6 micrograms chloromycetin per cc.

Stools: Stool samples are treated by digestion in 4 per cent sodium hydroxide and centrifuged at 3000 r.p.m. for thirty to sixty minutes. The sediment is resuspended in 6 cc. normal saline containing 10 units penicillin and 6 micrograms chloromycetin per cc then brought to *p*H 7 with 6 per cent hydrochloric acid.

INOCULATION OF GUINEA PIGS

Young healthy animals averaging 300 grams in weight proven to be negative to old tuberculin are used. Injections are made intramuscularly into the thigh. The animals are examined weekly for palpable lymph nodes. When enlarged nodes are evident the animals are again tested with old tuberculin. Positive reactors are autopsied and examined for gross evidence of tuberculous infections. Smears are made of the lesions to demonstrate the presence of typical acid fast bacilli. Animals showing no observable evidences of infection are kept for two months at which time they are tested with old tuberculin. Negative as well as positive reactors are carefully examined at autopsy for evidences of tuberculous infection.

INOCULATION OF THE YOLK SAC OF EMBRYONATED EGGS

Fertile eggs incubated in the regular hatching incubator for six to eight days are most suitable. Infertile eggs and those containing dead embryos are discarded by candling. The position of the yolk sac of living embryos is located by candling. A small hole 0.5 cm. in diameter is drilled in the egg shell at this point by means of a dental drill. The exposed shell membrane and immediately adjacent shell are covered with hot melted paraffin. Six embryos are used for each specimen tested.

The yolk sac is injected by means of a tuberculin syringe and gauge 20 or 22 needle. Amounts varying from 0.1 to 0.5 cc. are used, depending upon the volume of the inoculum available. The opening in the egg shell is sealed with melted paraffin.

EXAMINATION OF YOLK SACS FOR ACID FAST BACILLI

After four days' incubation in a bacteriological incubator at 37 C. the eggs are again candled and those containing dead embryos discarded. The yolk sac of one living embryo is examined on each successive day until acid fast bacilli can be demonstrated. A test is considered negative if no acid fast bacilli can be demonstrated following the consecutive daily examination of each of the 6 embryos inoculated. Either by means of cutting around the egg shell with the dental drill or picking away the shell at the blunt end the egg shell can be emptied by transferring its contents to

a sterile Petri dish. A 10 cc. pipette is used to transfer 2 to 3 cc. of the yolk to a 2.5 by 10 cm. sterile test tube. Enough sterile triple distilled water is added to bring the volume to 20 cc. To this pure phenol is added in sufficient amount to make a 15 per cent concentration. This step is important in the prevention of laboratory contamination and infection. The tube is sealed with a solid rubber stopper and vigorously shaken to insure thorough mixing. The mixture is allowed to stand in the vertical for at least two hours. At this time an extremely thin layer of oil fat has collected at the surface. By this means the bacilli are concentrated by flotation. A finely drawn capillary tube is then used to withdraw a small amount of the fatty layer by capillary attraction. This small drop is blown onto the center of the surface of a chemically clean slide. Another clean slide is placed over the original slide to allow the drop to spread evenly. The slides are then pulled apart leaving two thin smears, which after drying in the air and fixing by heat, are ready for staining.

STAINING AND MICROSCOPIC EXAMINATION OF SMEARS FROM YOLK SACS

New slides, free from scratches, cleaned in dichromate solution followed by washing in 80 per cent alcohol and then carefully wiped dry with a lint free cloth are essential. Only certified dyes are completely reliable. Stock carbol fuchsin solutions are prepared once a month. The working solution is prepared fresh daily and passed through filter paper immediately before use. Light green (yellowish) in 5 per cent aqueous solution is far superior to methylene blue as a counterstain for smears prepared from yolk. After light heat fixation the preparations are stained in the cold with carbol-fuchsin for three to five minutes according to the method described by Darrow.[7] Decolorization is done with 3 per cent hydrochloric acid in 95 per cent alcohol. After washing in tap water the light green counterstain is applied for one minute.

The numbers of acid fast bacilli which can be detected microscopically in the smear preparations will vary greatly from one specimen to another. In most instances there is a sufficient number to be detectable by searching from two to five minutes. Occasionally a longer search is required. Preparations are considered negative only when at least thirty minutes of thorough search reveals no acid fast bacilli.

DETERMINATION OF THE PATHOGENICITY OF ACID FAST BACILLI ISOLATED BY YOLK SAC CULTURE

Guinea pigs are used to determine the pathogenicity of the acid fast bacilli detected in yolk sac cultures. A young tuberculin negative animal is inoculated intramuscularly into the thigh with 0.5 cc. yolk from the first egg in each test in which acid bacilli are detected. The animals are tested with old tuberculin as soon as enlarged lymph nodes can be palpated. Positive reactors are then sacrificed and acid fast bacilli demonstrated in smears from typical search for tuberculous lesions.

In order to determine whether or not negative results obtained by examination of smear preparations are reliable a sample of yolk from the last egg of each test series in which no acid fast bacilli are demonstrable is inoculated into a tuberculin negative guinea pig. These animals are tested for sensitivity to old tuberculin at the end of thirty days and again at sixty days. The absence of tuberculous infection is then further substantiated by autopsy and a careful search for tuberculous lesions.

RESULTS

During the period from September 1, 1952, through March 30, 1953, 168 specimens of various types were subjected to the foregoing procedures to compare the results obtained from inoculation of the yolk sac of embryonated eggs with those obtained from the injection of guinea pigs for the isolation of *M. tuberculosis*. The results are summarized in Table 1.

Acid fast bacilli could be demonstrated in smears from the yolk sac of embryonated eggs four to seven days after inoculation with each of 79 specimens which produced tuberculous infection in the guinea pig. Acid fast bacilli could not be demonstrated in the yolk sac of embryonated eggs inoculated with each of 89 specimens which did not produce tuberculous infection in the guinea pig. The acid fast bacilli demon-

TABLE 1

COMPARISON OF THE SENSITIVITY OF THE GUINEA PIG AND THE CHICK EMBRYO YOLK SAC FOR THE ISOLATION OF *M. TUBERCULOSIS*

Specimen	Number G. P. Pos.	Number G. P. Pos. Y. S. Pos.	Number G. P. Pos. Y. S. Neg.	Number G. P. Neg.	Number G. P. Neg. Y. S. Pos.	Number G. P. Neg. Y. S. Neg.	Total
Spinal Fl.	37	37	0	29	0	29	59
Gastrics	16	16	0	21	0	21	37
Effusions	11	11	0	16	0	16	27
Tissues	7	7	0	9	0	9	15
Pus	4	4	0	9	0	9	13
Urine	2	2	0	3	0	3	5
Sputum	2	2	0	2	0	2	4
Totals	79	79	0	89	0	89	168

strated in each of the 79 positive specimens were proven to be pathogenic *M. tuberculosis* by inoculation into guinea pigs. No tuberculosis developed in guinea pigs injected with yolk from each of 89 embryos in which acid fast bacilli could not be demonstrated. Each of the noninfectious yolk specimens obtained from one of the embryos of the group of six inoculated with each of the 89 specimens was found noninfectious for the guinea pig. In this series the positive and negative results in guinea pigs and in the chick embryo yolk sac were identical.

DISCUSSION

These observations strongly support the conviction that inoculation of the yolk sac of 6 to 8 day chick embryos is equally as sensitive and reliable for the isolation of *M. tuberculosis* as is the usual routine method of inoculation of a single guinea pig with specimens obtained from patients suspected of tuberculous infection. It also appears to be as reliable as the inoculation of a single guinea pig for determining the absence of *M. tuberculosis* in the specimens tested. The chick embryo method has the distinct advantage of providing reliable positive information within four to seven days as compared with the guinea pig which usually requires from two to eight weeks. Negative evidence is available within ten days by the yolk sac method as compared with the usual eight to ten weeks required when guinea pigs are used. This advantage has previously been emphasized by the observations of McNelly and Riddell.[1] These investigators did not, however, provide too convincing evidence of the reliability of the method. Furthermore, they were inclined to favor chorio-allantoic inoculations over yolk sac injection and regarded the lesions developing in the membrane as more or less specific. It is readily conceded that sputum specimens from cases of known tuberculosis containing relatively large numbers of bacilli will produce recognizable lesions in the membrane within four to seven days. Whether or not specimens containing too few bacilli to be demonstrable upon direct examination will give the same results appears doubtful, but still remains to be determined.

Positive results obtained by the yolk sac method lack the nice specificity which the development of tuberculin sensitivity and the production of recognizable lesions obtained in the guinea pig. In the present series no nonspecific results were obtained in that no nonpathogenic acid fast bacilli were encountered. This possibility has been constantly kept in mind especially in the case of gastric washings and sputum specimens. McNelly and Riddell,[1] however, were unable to infect embryos by the membranal route with pure cultures of strains of nonpathogenic acid fast bacilli. The problem of the infectivity of nonpathogenic strains of *Mycobacterium* for the yolk sac is at present under investigation.

Experience with the method has thus far emphasized its great usefulness in the diagnosis of tuberculous meningitis, in patients with effusions and in the demonstration of acid fast bacilli in gastric washings. Its use has been especially impressive for pro-

viding current information by regularly repeated culture of spinal fluid at short intervals in cases of tuberculous meningitis under treatment.

The method described for the isolation of *M. tuberculosis* by inoculation of specimens into the yolk sac of the chick embryo can be readily adapted as a routine laboratory procedure. It should greatly facilitate and speed the more definite establishment of the diagnosis of tuberculosis and in ruling out the likelihood of tuberculous etiology in obscure chronic inflammatory processes. The average time required for positive results by the chick embryo method is five days; the guinea pig three weeks and the usual culture methods approximately one month. Negative reports can be made in ten days instead of eight to ten weeks.

CONCLUSIONS

1. Comparative studies have been performed which indicate that inoculation of the yolk sac of 6 to 8 days embryonated eggs with specimens from patients with suspected tuberculosis is as sensitive and reliable for the isolation of *M. tuberculosis* as is the usual method of inoculation of single guinea pig per specimen.

2. By the methods described acid fast bacilli typical of *M. tuberculosis* can be demonstrated in the yolk sac of embryos within four to seven days following inoculation with specimens in which the microorganism cannot be found by direct microscopic examination.

3. Acid fast bacilli demonstrated in the yolk sac after inoculation with each of 79 specimens of various types have been proven in each instance to be pathogenic *M. tuberculosis* by guinea pig inoculation. Yolk sacs in which acid fast bacilli could not be demonstrated six to ten days following inoculation were shown to be noninfectious for guinea pigs in 89 separate instances.

4. The use of the chick embryo for the isolation of *M. tuberculosis* by inoculation of the yolk sac is a feasible procedure for the routine laboratory diagnosis of tuberculosis.

REFERENCES

1. McNelly, E. and Riddell, W. A.: Use of egg embryos in the culture of *Mycobacterium tuberculosis*, Am. J. Publ. Health, 39:1463, 1949.

2. Dubos, R. J., Davis, B. D., Middlebrook, G., and Pierce, C.: The effect of water soluble lipid on the growth and biological properties of tubercle bacilli, Am. Rev. Tuberculosis, 54:204, 1946.

3. Eggerth, A. H., Dresher, E., and McOsker, V. C.: Infection of chick and duck embryos with tubercle bacilli, Am. Rev. Tuberculosis, 57:632, 1948.

4. Lee, H. F.: Use of the chick embryo for preliminary *in vivo* evaluation of tuberculostatic substances, Ann. New York Acad. Sc., 52:692, 1949.

5. Brueck, J. W., and Buddingh, G. J.: Propagation of pathogenic fungi in the yolk sac of embryonated eggs, Proc. Soc. Exper. Biol. and Med. 76:258, 1951.

6. Brueck, J. W., and Buddingh, G. J.: Isolation of *M. tuberculosis* by inoculation of the yolk sac of embryonated eggs, Proc. Soc. Exper. Biol. and Med., 80:589, 1952.

7. Darrow, M. A.: Staining the tubercle organism in sputum smears, Stain Technology, 24:93, 1949.

CORNEAL TRANSPLANTS*

GEORGE M. HAIK, M. D.

NEW ORLEANS

The concept of substituting a clear cornea for a clouded cornea goes back more than a century and a half. It was in 1789, as Paton[1] reminded the International Symposium on Corneal Surgery in 1949, that a member of the Montpellier Faculty first suggested that a piece of glass similar to a watch crystal be substituted for a completely opaque cornea. In his excellent historical review he noted other suggestions and developments made subsequently, among them that an opening for an artificial pupil be made in the sclera; that the scleral window be closed with a transplanted cornea of animal origin; that the cornea used for a replacement should not be transplanted to an opening in the sclera but should be used in place of the excised leukoma; and that a transplant from a cadaver be used. Among the numerous instruments developed for the transplantation operation was the trephine which von Hippel, in 1877, modified from a previous trephine and which, in modified form, is still used in all corneal transplants. Elschnig in Prague began to perform corneal transplan-

*From the Department of Ophthalmology, Louisiana State University School of Medicine.

†These remarks were prepared to accompany a moving picture on corneal transplantation, covering the technique and including a complete case demonstration, presented at the Seventy-third Annual Meeting of the Louisiana State Medical Society May 8, 1953, in New Orleans.

tations in 1908, and by 1930, had recorded 203 operations. Exactly when Filatov began to use the operation is not clear, but by 1938 he could put on record 436 transplantations, chiefly performed with eyes secured from living subjects.

The year 1938 marks the beginning of activity in this field in America. Since then there have been great technical advances in the operation. The number of surgeons trained to perform it has steadily increased and it is now available in most parts of the country. It has been estimated that there are at least 15,000 persons in the United States who are blind from corneal disease and who might be helped by corneal transplantation if only the supply of donor material could be increased. Not the least important of the advances in corneal transplantation in the last several years is, therefore, the establishment of the Eye-Bank for Sight Restoration, Inc., which provides the indispensable material for the operation, and of which the Southern Bank, in New Orleans, is one of the regional branches.

TECHNIQUES

Several techniques have been devised for corneal transplants:

1. Rotating autokeratoplasty is theoretically sound but is not as successful as procedures which employ donor grafts.

2. The lamellar graft (superficial lamellar keratoplasty), which was developed in Europe, is the only procedure possible in certain conditions, particularly recurrent pterygia, epithelioma, symblepharon, neuroherpetic keratitis, and bullous keratitis following intraocular surgery. It is the only useful operation in some active ulcers of the cornea.

3. The partial penetrating operation, however, which utilizes a button of full-thickness cornea, is the most generally applicable technique.

4. Total penetrating keratoplasty is a development of the last three years. As late as 1947, McLean[2] stated, at a symposium on corneal surgery, that it was not feasible theoretically and not successful clinically. In 1951, however, Castroviejo[3] reported 21 cases which he had handled by this technique over the preceding ten months, with most encouraging results: Thirteen transplants, observed from two to ten months, were either clear or nebulous, and 12 of the 13 patients had improved vision; in the remaining case the operation was done only for cosmetic reasons. Castroviejo had frankly extended the indications for operation, using it in such conditions as dense corneal vascularization unsuitable for preliminary irradiation, dense total opacities, total anterior synechias, corneal staphyloma, and, occasionally, cases in which partial keratoplasty had failed.

INDICATIONS AND CONTRAINDICATIONS

Corneal transplantation requires a careful selection of cases, with each patient considered as an individual problem set in the general framework of indications and contraindications. Age, physical status, and psychologic and emotional make-up are all important. The operation is seldom indicated in a one-eyed patient. It is never indicated if iridectomy could be performed successfully. When the sight is 20/200 or better, corrected, in either eye, the operation would not be indicated except under special circumstances. One of our own operations, for instance, was performed for keratoconus, in a 30-year-old bookkeeper.

The indications for operation may be roughly classified as follows:

1. The most favorable indications include mild keratoconus, moderate central scarring, and mild interstitial keratitis.

2. The next, less favorable indications include hereditary dystrophies, extensive superficial corneal opacities without vascularization, adherent leukomas, central descemetocele, and extensive interstitial keratites.

3. Frankly unfavorable indications include corneal scarring which involves both the limbus and the pupillary area; extensive deep leukomas, particularly those which follow alkali burns; certain band-shaped degenerations; opacities associated with vascularization of the pannus; dystrophia adiposa corneae; and aphakia.

4. Corneal transplantation is ordinarily regarded as contraindicated in a number of

conditions, including Fuchs' endothelial and epithelial dystrophy, total corneal opacification, calcareous degeneration, massive anterior synechias, recent uveitis, glaucoma, macular degeneration, and other severe retinopathies, pemphigus, xerophthalmia, nonparalytic lagophthalmos, trichosis, atrophic blepharitis, and myopic degeneration. In the latter disease there is danger of retinal detachment and the results are usually poor even if the graft remains clear.

On the surface, this is a formidable list of contraindications and of conditions in which the outlook for success varies from moderately favorable to poor. It is not, however, as discouraging as it seems. In a number of these conditions preliminary therapy can so alter the situation that a case which was formerly unfavorable becomes more favorable, or actually favorable. Irradiation, for instance, can be used to reduce or obliterate corneal vascularization. Keratectomy, with or without plastic repair, can be used in symblepharon. Iridectomy is useful in anterior synechias. Glaucoma may respond to various measures. Castroviejo even recommends total penetrating keratoplasty for such conditions as Fuch's dystrophy, in which lamellar keratoplasty is absolutely contraindicated because if it fails, the sight is made worse.

COMPLICATIONS

To the properly trained ophthalmic surgeon corneal transplantation should present no more difficulties than any other intraocular surgery. The technique, however, must be precise, for most of the complications which follow the operation can be attributed to technical errors. Thus a defect or an irregularity in either the graft or the recipient cornea may be the result of faulty fixation of the graft in the wound or the result of differences in the thickness of the donor graft and the recipient cornea. Other possible complications include delayed formation of the anterior chamber, prolapse of the iris, postoperative hemorrhage, infection, secondary glaucoma, anterior synechias, iridocylitis, and vascularization and early or late clouding of the graft.

Again the outlook is not as discouraging as it might at first seem to be. Most of these complications can be prevented, and if they occur, they can often be corrected by prompt and energetic treatment, so that a satisfactory outcome may still be obtained.

PROGNOSIS AND RESULTS

Another encouraging aspect of the apparently discouraging list of relative and absolute contraindications to keratoplasty appears in an anlysis of end-results. Roberts,[4] in 1950, analyzed a representative series (100 cases) of partial penetrating keratoplasties performed at the Manhattan Eye and Ear Hospital, which had been followed up for four months or more, as follows:

1. When the cases were classified from the standpoint of preoperative prognosis, the results were good in 82.7 per cent of the favorable cases, in 69.4 per cent of the less favorable cases, in 31.3 per cent of the unfavorable cases, and in 10 per cent of the cases in which the operation is ordinarily regarded as contraindicated.

2. When results were analyzed according to the size of the opacity, they were good in 74.3 per cent of the cases in which the scar was central, in 67.6 per cent of the cases in which it occupied up to half the cornea, and in 36.9 per cent of the cases in which it occupied more than half of the cornea.

3. When results were analyzed from the standpoint of vascularization, they were good in 71.7 per cent of the cases in which there was no vascularization, in 45.5 per cent of the cases in which vascularization was slight, and in 22.7 per cent of the cases in which it was moderate. Both instances of total vascularization were complete failures.

What stands out in this analysis of results is the fact that even in frankly unfavorable cases, fair to good results were sometimes achieved. Thus, some 10 per cent of the patients were benefited in the group in which operation would ordinarily be regarded as contraindicated. More than a third were benefited when scarring occupied more than half of the cornea, and more than 20 per cent were benefited when vas-

cularization of moderate degree was present. Results in the latter category should be even better now, since it has been shown that preliminary irradiation can convert unfavorable to more favorable categories.

SUMMARY

Corneal transplantation is an operation of increasing availability and increasing promise. Even when the outlook is less than favorable, good results can sometimes be accomplished.

Indications, grouped according to prognosis, are listed, and techniques and results are briefly discussed.

REFERENCES

1. Paton, R. Townley: Corneal transplantation: A historical review, Am. J. Ophth. 33 (part II): 3, 1950.
2. McLean, John M.: Symposium: Corneal transplantation. II. Technic, Tr. Am. Acad. Ophth. & Otolaryng., 52:317, 1947.
3. Castrovlejo, Ramón: Total penetrating keratoplasty. A preliminary report, Am. J. Ophth., 34:1697, 1951.
4. Roberts, James E.: Statistics on results of keratoplasty, Am. J. Ophth. 33 (part II): 21, 1950.

NATURE AND MANAGEMENT OF CARDIAC ARREST*

PAUL T. DeCAMP, M. D.†
New Orleans

INTRODUCTION

Cardiac arrest may be defined as completely ineffective heart action. Sudden stoppage of effective heart action as a terminal event in severe heart disease is of little moment, but cardiac arrest occurring in an individual in whom adequate cardiac function remains is a tragedy indeed. Such arrest may occur in the operating room, in the accident room, during cardiac catheterization, or during simple diagnostic and therapeutic procedures such as thoracentesis. This complication is so devastating, its occurrence demands such prompt and vigorous therapy, and the fact that it can usually be prevented, all demand a clear-cut understanding of the principles involved.

Cardiac arrest has been estimated to occur about five times a year in an average 700 bed hospital. Stephenson and associates have collected over 1,200 cases.[7] In this group 72 per cent ended fatally. Ninety per cent occurred as arrest in diastole (asystole) and 10 per cent as ventricular fibrillation. Twenty per cent occurred in children under 10 years of age. The incidence is governed by the age and cardiac status of operative patients, the magnitude and character of the operative procedures performed, and the management of the patient before and during the operative procedure. Cooley's report[2] of an incidence of 5.5 per cent in 878 patients operated upon for pulmonic stenosis illustrates the high incidence in very ill cardiac patients for whom a major vascular operation is necessary. An inordinately high incidence has been reported from some hospitals and communities in which poor medical and anesthesia practices have been common.

Prevost and Batelli, in 1899,[6] successfully defibrillated the hearts of cats. Four decades later Carl Wiggers[8] through experimental studies placed the management of ventricular fibrillation on a sound theoretical and practical basis. In 1947, Beck and associates[1] reported the first successful defibrillation of a human heart. Beck and his group have led the way in the understanding and the clinical management of this problem. I am indebted to them for the opportunity to take a stimulating course in cardiac resuscitation at the Western Reserve University School of Medicine in June 1952.

The basic general principles of this condition are:

1. Cardiac arrest may occur during any operation with any type of anesthesia.
2. Cardiac arrest never occurs without warning.
3. Cardiac arrest should never occur.
4. Prevention and treatment of cardiac arrest demand eternal vigilance.
5. Resuscitation must begin the instant arrest occurs.

Almost without exception the occurrence of cardiac arrest is preceded by premonitory signs which warn of impending dis-

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†From the Department of Surgery, School of Medicine, Tulane University of Louisiana at New Orleans and the Ochsner Clinic, New Orleans, Louisiana.

aster. Prompt, intelligent management at this time will prevent the development of cardiac arrest. The statement that, "the patient was doing well without any difficulty of any kind until suddenly the heart stopped beating," indicates careless observation on the part of the attending physicians.

Cardiac arrest may be classified as follows

A. Arrest with diastolic filling of the heart
   1. Standstill in diastole—90 per cent
   2. Ventricular fibrillation — 10 per cent.

B. Arrest without diastolic filling of the heart—very rare
   1. Failure to dilate in diastole
   2. Standstill in systole.

With standstill in diastole, all visible heart action ceases with the heart gradually dilating as it fills with venous blood. In ventricular fibrillation, atrial contractions continue but only a tremor occurs in the ventricular myocardium, again with progressive dilatation. With failure to dilate in diastole normal rhythm of the atria and ventricles persists, but because the heart does not dilate in diastole no cardiac filling (or emptying) can occur. During standstill in systole the myocardium remains in a tetanic-like spasm, again preventing cardiac filling and emptying.

Fortunately the conditions in which diastolic filling of the heart occurs account for almost 100 per cent of the cases. In the presence of diastolic filling it is possible to restore a degree of circulatory effectiveness by massage of the heart. Cardiac rehabilitation is then possible. When diastolic filling of the heart does not occur massage is ineffective, and the mechanismal disturbance of the heart must be corrected within three to five minutes or the patient will die.

Standstill in diastole usually occurs in deep anesthesia and represents a poisoning of the myocardium. It is by far the most common form of cardiac arrest, and responds the most readily to treatment. Ventricular fibrillation frequently occurs in relatively light plane anesthesia. It is difficult to manage as it must be converted first to standstill in diastole and then to normal sinus rhythm. The tremor of the ventricular muscle is coarse at first, but becomes finer as time passes, and finally leads to a completely inactive myocardium.

PREDISPOSING FACTORS

Many factors may predispose to cardiac arrest. The most important ones will be discussed in the approximate order of their importance. Unquestionably the most important single factor is hypoxia, the inadequate supply of oxygen to blood because of inadequate ventilation or ineffective gaseous exchange. Unfortunately, the diagnosis of this condition is extremely difficult as gross cyanosis occurs only with advanced states of hypoxia. An oximeter is of some assistance in fair-skinned individuals. Hypoxia gives rise to cardiac weakness and sensitivity which sets the stage for other factors to precipitate cardiac arrest.

Hypercapnia and acidosis are considered important predisposing factors. Miller and associates[5] have demonstrated posthypercapnic cardiac arrhythmias and/or arrest following sudden reversal of the hypercapnic state by rapid hyperventilation. The diagnosis of hypercapnia is difficult, and there are no recognized clinical signs.

A contracted blood volume and hypotension result in poor transport of oxygen to, and metabolic end-products away from, the myocardium and other tissues of the body. A period of shock with resultant tissue hypoxia sensitizes the myocardium to noxious stimuli.

The quality of anesthesia is an important factor. It is apparent that the most important factor in anesthesia is the ability of the anesthetist to provide adequate anesthesia while maintaining oxygenation. The differing sentiments among experienced anesthetists for or against cyclopropane, pentothal, or ether indicate the primary importance of the ability and alertness of the anesthetist rather than the particular agent employed. In bad risk cardiac cases we prefer induction with cyclopropane and maintenance with ether, at all times with a high concentration of oxygen. One thing is

certain, that the use of multiple anesthetic agents compounds the hazards and the confusion. A "little bit" of each of half a dozen agents is far more dangerous than an accurately controlled quantity of a single reliable agent with plenty of oxygen. Overly rapid induction is hazardous. The agents with the widest margin between adequate anesthesia and toxicity are the anesthetics of choice. Ether, in our opinion, remains in a class by itself.

Impulses from the operative field, or from respiratory passages, may give rise to serious mechanismal changes and even cardiac arrest. This is the so-called "vago-vagal reflex" because both the afferent and efferent impulses travel over the vagus nerves. The impulses tend to shift the pacemaker downwards, to cause bradycardia, multiple ectopic ventricular impulses, and finally idioventricular rhythm or even ventricular fibrillation. These changes frequently occur in relatively light planes of anesthesia. It is probable that in every instance other metabolic factors predispose to the occurrence of these irregularities. Manipulation, and particularly displacement of the heart, lead to difficulties by interfering with cardiac filling.

Although cardic arrest may occur during any type of operation, and with any type of anesthetic agent, it occurs most commonly in chest operations, and particularly during operations on the heart and great vessels in patients with severe myocardial disease. As cited above[2] the Johns Hopkins hospital incidence of 5.5 per cent in 878 patients operated upon for pulmonic stenosis illustrates the high incidence in this type of case. In a five-year experience at the Western Reserve University Hospital[4] cardiac arrest occurred during 14 chest operations, during 11 obstetrical and gynecologic procedures, during 9 gastrointestinal operations, and in 9 other cases. The longer the operation, the greater the hazard becomes, although a good long anesthesia is less dangerous than a poor short one.

The nutritional status and electrolyte balance affect the myocardium as well as other tissues. The preoperative cardiac competence is extremely important and every effort should be made to bring the myocardium to its optimum efficiency. As a corollary the nature and severity of underlying heart disease is of great importance. Any pulmonary disease which interferes with adequate oxygenation of the blood in the lungs increases the hazards of cardiac arrest.

There is clinical evidence that anxiety increases a patient's difficulties. This effect is probably mediated through excessive epinephrine excretion. We have seen severe tachycardia develop with the induction of anesthesia in apprehensive individuals. The excessive use of any drugs, but particularly cardiac or respiratory depressants, predispose to cardiac standstill. Anemia contributes to myocardial and tissue anoxia by interfering with oxygen transport to the tissues. Age is a predisposing factor as the incidence of arrest is high in the very young and the very old.

WARNING SIGNS OF IMPENDING DISASTER

Cardiac arrest almost never occurs without warning. Among the signs are: changes in respiration, cyanosis, hypotension unrelated to blood loss, tachycardia, bradycardia, the displacement of the pacemaker downwards, the occurrence of repetitive ectopic beats, change in A-V or I-V conduction, electrical or mechanical alternation, or unexplained changes in the level of anesthesia.

DIAGNOSIS OF CARDIAC ARREST

Cardiac arrest is diagnosed by the disappearance of the pulse, in the absence of peripheral vascular collapse. The absence of a pulse is usually first noted by the anesthetist in a peripheral artery. It should immediately be checked in the nearest available large artery. The absence of a palpable pulse establishes the diagnosis. Time should not be wasted in confirmation by auscultation or by electracardiography. It is true that in some instances on opening the chest feeble cardiac impulses wil be observed, in place of true cardiac arrest, but this too, is best treated by cardiac massage, adequate oxygenation and possibly adrenalin.

PRINCIPLES OF TREATMENT OF CARDIAC ARREST

The successful management of established

cardiac arrest rests on the following basic principles:

1. Have necessary equipment available.
2. Have a definite plan of action.
3. Execute the plan of action with the precision of a fire drill.

This demands planning and practice. When cardiac arrest occurs it is too late to assemble equipment, and to plan and execute a course of action.

EQUIPMENT FOR TREATING CARDIAC ARREST

Only the simplest equipment is needed and it consists of the folowing:

Knife	1 10 cc. plain tip syringe
Scissors	1 10 c. metal tip syringe
A few clamps	2 long, No. 22 needles
Rib Spreader	20 cc. 1 per cent procain
2 medicine glasses	1 cc. 1:1,000 adrenalin

Physiologic saline solution, pyrogen free.

The only special equipment needed is an electrical defibrillator. A number of inexpensive models are available. Any competent electrician can assemble one from readily available equipment. We have used the Rand* defibrillator with satisfaction. Although ventricular fibrillation is a relatively infrequent type of cardiac arrest, it does occur in 10 per cent or more of cases, and electrical defibrillation is the only reliable means of stopping the fibrillation. The defibrillator should deliver, through the heart, a current of about 1.5 amperes with the usual 110 volt A. C. current. To do that it should deliver about 3.5 amperes with the electrodes in direct apposition. With a very large heart a somewhat larger current may be necessary. In an emergency the bare wires from the usual house current may be connected to Deaver retractors which may be applied to the heart. Care must be taken not to shock the operator.

TECHNIC OF MANAGEMENT OF CARDIAC ARREST

It is essential to get oxygen into the lungs and through the blood to the essential organs, the brain and the heart, during the interval of cardiac ineffectiveness; and then to restore cardiac activity at the earliest possible moment. The circulation must be restored to the brain within three to five minutes or irreparable damage will occur. Artificial respiration and cardiac massage must be established within this time interval and the sooner the better.

DUTIES OF THE ANESTHETIST

The anesthetist must be eternally vigilant because the essential, instantaneous recognition of cardiac arrest depends upon his alertness. It is even more important that he recognize the premonitory signs so that cardiac arrest may be prevented. He should *never*, under any circumstances, leave the patient from the beginning of induction until recovery from anesthesia, or until the postoperative care has been entrusted to some other competent observer. He should notify the surgeon of any changes in the patient, warning of impending cardiac arrest. He should immediately notify the surgeon of an absent pulse, and note the time. Anesthesia should be discontinued, an intratracheal airway immediately established if not already present, and artificial respiration with 100 per cent oxygen begun. The surgeon should be notified when three minutes have elapsed. The head of the table should be lowered slightly to facilitate return of blood to the heart, and to encourage circulation to the brain. If there is any reason to suspect a reduced blood volume he should, in consultation with the surgeon, direct transfusion therapy. If cardiac arrest continues for any length of time there is a tendency for the vascular bed to expand and further transfusion with whole blood is indicated.

DUTIES OF THE SURGEON

On suspicion of cardiac arrest, or on notification by the anesthetist that the peripheral pulse is absent, the surgeon should check the pulsation of the nearest available major artery. If the chest is open, the heart itself is visualized. If the abdomen is open the aorta is palpated. Even if the abdomen is closed the aortic pulsation can be felt normally except in obese individuals. If a palpable pulse cannot be felt, and there is no reason to suspect peripheral circulatory collapse from shock, the diagnosis of cardiac arrest must be made. Without antiseptic preparation of the skin an intercostal in-

*H. J. Rand Foundation, 12720 Lake Shore Boulevard, Cleveland 8, Ohio.

cision is made in the left chest in the general region of the heart. The right hand is inserted through this incision and cardiac massage begun. Because there is no need for hemostasis, this procedure should be accomplished in fifteen seconds, and massage instituted within thirty seconds of the time the anesthetist reports an absent pulse.

After cardiac massage has been begun, better exposure is obtained by the insertion of a rib spreader, and in adults the two adjacent ribs are divided. The pericardium is opened and more effective massage carried out. The heart may now be examined to determine whether any cardiac activity is present, and whether it exhibits feeble contractions with a normal rhythm, complete inactivity, or ventricular fibrillation. If feeble normal contractions were present on opening the chest, the initial period of adequate oxygenation and masage may restore normal heart action. This may also prove true with complete arrest in diastole. With ventricular fibrillation there is initially coarse fibrillation of the ventricular muscles. These fibrillations rapidly become finer and then disappear completely so that the heart may have the appearance of complete standstill in diastole.

In cases where normal sinus rhythm persists but diastolic relaxation does not occur, the auricles and ventricles may be seen to contract regularly but there is no diastolic relaxation of the heart. In standstill in systole there is no cardiac activity, the ventricles being fixed in a state of systolic spasm. The electracardiograph may prove useful in the differential diagnosis. The descending thoracic aorta is occluded with a noncrushing clamp to direct all of the circulating blood to the heart and brain.

If diastolic filling of the heart is not occurring, cardiac massage is completely ineffective. Little is known about the management of these extremely rare conditions but it would seem wise to apply 5 to 10 cc. of 1 per cent procaine to the surface of the heart and to inject 5 to 10 cc. into the left ventricle immediately and continue massage hoping that myocardial relaxation will occur. These conditions are desperate because myocardial relaxation must occur within three to five minutes or irreparable cerebral damage will occur. We have observed failure to dilate in diastole in one case of an 11 year old girl with a very large patent ductus arteriosus, pulmonary hypertension and partial right to left shunt through the ductus. About fifteen minutes after application of a clamp to the ductus cardiac arrest occurred. Auricular and ventricular contractions of apparently normal character continued but diastolic relaxation failed to occur. Cardiac arrest was recognized instantly and masage begun but it was not until one to two minutes had elapsed that the unusual character of the arrest was appreciated. We did not know what should be done. It was finally decided to use procaine but at that time, six minutes after the onset, normal heart action was restored spontaneously (without the removal of the ductus clamp). The ductus was quickly ligated and the chest closed. Spontaneous respiratory action returned but the child died after six hours with usual signs of severe cerebral damage.

Effective massage is the result of practice and any surgeon who may be faced with the complication should practice the manipulations on a dog. The two ventricles must be encircled by one or two hands depending on the size of the heart. Compression of the heart against the sternum is less effective and more traumatizing. Gentle pressure will empty the ventricles and it should be remembered that the ventricular chambers contain large papillary muscles so that chamber compression need not be too vigorous. There is experimental evidence[3] to indicate that the more rapid the massage the more effective the circulation. From the practical point of view a rate of 60 to 80 per minute is all that can be maintained, and it is necessary for two men to spell each other at short intervals to keep this up. With adequate massage a palpable peripheral pulse should be restored, and a systolic blood pressure in the neighborhood of 60 to 80 mm. of mercury should be maintained.

With the delivery of high concentrations of oxygen to the lungs, the objectives of

cardiac masage are to deliver enough oxygen to the brain to protect it from irreparable damage, and to deliver enough oxygen to the myocardium so that it will either spontaneously begin normal activity or it will be able to respond to appropriate stimuli.

In cases of standstill in diastole (asystole) massage is effective in maintaining circulation and, with adequate oxygen supply to the lungs, spontaneous heart action will often return. If cardiac action fails to return, or only feeble, ineffective contractions occur, adrenalin is the treatment of choice. An ampoule of 1 cc. of 1:1000 adrenalin is diluted to 10 cc. in normal saline and 3 to 4 cc. of the resultant 1:10,000 dilution is injected into the right ventricle after the myocardium has been well oxygenated. Massage is reinstituted. Rapid, vigorous heart action should ensue. If it does not, a slightly larger dose may be given after the myocardium has been again oxygenated. Epinephrine is the most effective agent for correcting standstill in diastole, but occasionally 10 cc. of 5 per cent calcium chloride solution will be effective after epinephrine has failed. Ventricular fibrillation may result, particularly if large doses of adrenalin are used.

With ventricular fibrillation large segments of the myocardium are always in the refractory phase so that a normal sinus rhythm cannot be reestablished until the fibrillation is stopped and a standstill created. The preliminary manoeuvres of oxygenation of the lungs and cardiac massage are the same as with cases of standstill.. The only effective means of interrupting the ventricular fibrillation is by a sudden electrical shock. After myocardial tone has been restored by ventilation of the lungs with oxygen, and cardiac massage, a current of 1.5 amperes, of a 110 volt A. C. current, is passed through the myocardium of the ventricles. Large electrodes (7 cm. or more in diameter) should be used to diffuse the current through the heart. With a very large heart a stronger shock may be necessary, and it is sometimes necessary to use a series of shocks at short intervals to stop the fibrillation. Each shock is for 0.5 to 2.0 seconds.

If defibrillation is effective, gentle cardiac masage is again begun and normal heart action restored. If the cardiac action repeatedly reverts to fibrillation after successful interruption, 3 to 4 cc. of 1 per cent procain solution may be injected into the right ventricle to reduce the sensitivity of the myocardium. It may then be possible to effect permanent defibrillation. Because procain is a myocardial poison it should not be used routinely, as the resultant sluggish myocardium responds less well to stimuli. If resuscitative steps are apparently ineffective, they should nevertheless be continued until there is no myocardial response to stimulation.

If normal cardiac action is restored, spontaneous respiratory activity will often follow. It is imperative that the patient be watched in the operating room for a long time. After the patient has remained stable for some time he may be moved to the recovery room, but it is necessary that constant attention by a physician be maintained for at least twenty-four hours. Everything needed to treat a recurrence of cardiac arrest, should be available at the bedside.

TYPES OF RESPONSE TO TREATMENT

There may be no restoration of either cardiac or pulmonary action and death ensues. In some cases cardiac action develops but spontaneous respirations never occur and death follows. Sometimes heart and lung function returns but the brain has received irreparable damage. In the early postoperative hours the temperature rises rapidly, restlessness and even convulsions may occur, with death following in six to twenty-four hours. Occasionally the vital functions are restored but a progressive hypotension appears in the first six to twelve hours in spite of adequate blood replacement. It is thought that this may be due to adrenal cortical insufficiency. If recovery from cardiac arrest occurs, there is usually no permanent cerebral damage. The risk of having a decerebrate survivor is not great.

PREVENTION OF CARDIAC ARREST

The technique of treatment of cardiac arrest is relatively simple, and the correct management can be easily learned. But cardiac arrest remains a very serious complication and even with the best treatment recovery occurs in a minority of cases. It is far more important, and infinitely more successful, to prevent cardiac arrest rather than to treat it. The principles of the prevention of cardiac arrest are: (1) Avoid or correct predisposing factors (see above). (2) Employ frequent rest periods for the heart and lungs if they are manipulated during the operative procedure. (3) If warning signs of arrest appear it is imperative to immediately stop, look, and oxygenate the lungs. (4) If danger signals persist the operation should be discontinued.

Preoperative preparation involves the use of digitalis in cases of congestive failure, with mercurial diuretics prescribed if there is evidence of water retention. Several days of bed rest, observation and treatment are necesary to restore the myocardium to its maximum efficiency. Atropine is the only "routine" preoperative medication. It is given to reduce bronchial secretions, and to discourage the appearance of vagal reflexes. It must be used cautiously in cases of valvular stenosis of the heart, because a severe tachycardia may develop and lead to circulatory collapse.

Quinidine is exhibited if multiple ventricular premature contractions are present. It is to be remembered that quinidine acts only for two to four hours. It is, therefore, necessary to give it immediately before the operation, and to repeat it during a long operation. In cases where auricular flutter or fibrillation develops, quinidine may be used in an attempt to convert to a normal sinus rhythm. If this fails, digitalis should be used to slow the heart rate. Digitalis should be used first in cases of auricular flutter with failure. In cases of frequent paroxysmal tachycardia, quinidine is again indicated.

Anxiety should be avoided. The increased output of adrenalin may precipitate serious complications. A good rapport should be established with the patient, and fears allayed by patient and hopeful descriptions of the operation. A good night's sleep brings the patient to the operating theatre rested and refreshed. Preoperative morphine allays alarm and provides basal analgesia.

During operation special precautions should be taken. The highest possible concentration of oxygen should be delivered to the lungs at all times, and the circulation should be carefully maintained at maximum efficiency. Blood should be replaced as it is lost. Frequent or multiple premature beats suggest reflex stimuli from the operative area. One per cent procain injected into the area of manipulation is usually effective. Quinidine may be helpful.

If tachycardia develops, it is important that its character be determined. Electrocardiography may be necessary. Sinus tachycardia is a physiologic mechanism and no medicaments will alter it. If sinus tachycardia becomes severe the operation must be stopped and the procedure completed another day. Paroxysmal supraventricular tachycardia indicates reflex vagal stimulation. Stimulation of the carotid sinus may be tried. Parenteral quinidine therapy has proved effective. If that fails, rapid parenteral digitalization may be employed. Paroxysmal ventricular tachycardia is best treated by quinidine.

Bradycardia is a significant danger signal and indicates undue reflex vagal activity. If practical, procain should be injected locally into the operative area, atropine should be given, and all manipulations discontinued. If a sinus bradycardia responds to this treatment, the operation may be cautiously continued. In the case of an A-V heart block, oxygen is particularly important. Local procain and atropine should be employed and the operation should be immediately terminated. If the pacemaker shifts downward to the A-V node or to the ventricle all manipulations should cease and procain and atropine should be administered.

Cedalanid is probably the most rapid and reliable form of therapy for auricular flut-

ter or fibrillation developing during operation. Quinidine is less reliable.

If hypotension not due to blood loss develops, norepinephrine (levophed) should be administered in an intravenous drip at a rate to maintain the circulation. The operation should be terminated as rapidly as possible.

Oxygen under positive pressure should be given for acute pulmonary edema. Rapid digitalization with cedalanid is indicated, and phlebotomy should be performed if necessary. Temporary "phlebotomy" may be performed by the application of tourniquets to the four extremities to occlude venous return. Every fifteen minutes one tourniquet at a time may be released for a few moments.

CONCLUSIONS

1. Cardiac arrest may occur during any operation with any type of anesthesia.

2. Cardiac arrest never occurs without warning.

3. Cardiac arrest should never occur.

4. The prevention and treatment of cardiac arrest demand eternal vigilance.

5. Resuscitation must begin the instant arrest occurs and, to be effective, must follow a prearranged plan with the precision of a fire drill.

REFERENCES

1. Beck, C. S., Pritchard, W. H., and Feil, H. S.: Ventricular fibrillation of long duration abolished by electric shock, J. A. M. A., 135:985, 1947.

2. Cooley, Denton A.: Cardiac resuscitation during operations for pulmonic stenosis, Ann. Surg., 132:930, 1950.

3. Johnson, Julian, and Kirby, Charles K.: An experimental study of cardiac massage surgery, 26:472, 1949.

4. Hosler, Robert M.: Course in Cardiac Resuscitation, Western Reserve University School of Medicine, Cleveland, Ohio, June 20, 21, 1952.

5. Miller, Fletcher A., et al: Respiratory acidosis: Its relationship to cardiac function and other physiologic mechanisms, Surgery, 32:171, 1952.

6. Prevost, J. L. and Batelli, F.: Sur quelques efffets des decharges electriques sur la coeur des mammiferes, Compt. rend acad. sc., 129:1267, 1899.

7. Stephenson, Hugh E., Jr., Reid, L. Corsan, and Hinton, J. William Hinton: Some common denominators in 1200 cases of cardiac arrest., Ann. Surg., 137:731, 1953.

8. Wiggers, Carl J.: The physiologic basis for cardiac resuscitation from ventricular fibrillation—Method for serial defibrillation, Amer. Heart J., 20,413, 1940.

PSYCHIATRY AND PUBLIC OPINION*

ROY CARL YOUNG, M. D.†

COVINGTON

In discussing the psychiatrist and the public you will, of course, recognize the abstractions and the stereotypes with which we are dealing. There is, in actuality, no such creature as "*the* psychiatrist." There are many different kinds of individuals who practice the art or pursue the science of psychiatry. They may have little in common as to background, culture, marital status, political or religious persuasion; and yet the public tends to lump them all together.

Nevertheless, as Paul Haun[1] has stated:

"I believe that psychiatry is a medical specialty and that its theories, techniques, responsibilties and practices are as integral a part of medical science as are those of surgery and obstetrics. As a consequence of this conviction, I oppose the practice of psychiatry by any professional, subprofessional, or nonprofessional individual who is not a physician."

In other words, every psychiatrist is a physician. The better versed he is in pathology, diagnosis, and treatment of human ailments, the more understanding he will be concerning the problems of emotionally and mentally ill patients. Burlingame has well said that "psychiatry and medicine are inseparable."

The public, and I am now using another stereotype, or abstraction, is given to certain preconceived notions about psychiatrists which often come out in the form of certain well worn clichés, such as: "I don't like psychiatrists because they can see right through you," or, "they always ask the most outrageous questions" or, "I should think they would go crazy with all the unbalanced people they come in contact with." But perhaps the commonest view is that a psychiatrist is alien and grotesque, if not ridiculous and sinister. This is often reflected in the jokes and cartoons published in the popular layman's magazines.

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†Medical Director Fenwick Sanitarium, Covington, La.

However, the psychiatrist is not the only one that has been the butt of derision by the man in the street. The red and white pole outside a barber's shop reminds us of almost forgotten days in medical history when physicians looked down upon surgeons, and surgical procedures such as blood-letting were relegated to nonprofessional persons. Even today in British countries surgeons keep, as a sign of distinction, the title "Mister," which their colleagues once used to indicate their exclusion from the profession. Surgery today is thoroughly integrated with medical practice, and surgeons since the days of Pasteur and Lister have placed their art on a highly scientific basis. There is some parallel to this historical situation in the changing status of psychiatry today. Most psychiatrists have felt in the past that their medical colleagues have had but little regard for the medical significance of their work.

An internist, in a moment of heated discussion, said to a psychiatrist who had years of general practice before specializing, "You used to be a doctor!" Thoughtful physicians now recognize that recent tendencies toward regarding human beings as biologic machines have led to serious diagnostic and therapeutic errors. The rapid mounting of interest in psychosomatic medicine attests the readiness of the profession generally to learn about and apply knowledge of their patients as people. The vast role of emotions in the production of illness being acknowledged, psychiatrists are now being called upon to elucidate the genesis of anxiety and the manner in which it may produce illness. This welcome development places sudden and conspicuous responsibilities upon psychiatrists. Having worked and waited for the opportunity now offered, they must take full advantage of it now that it has arrived.

In the past, the attitude of many physicians toward psychiatry was that it offered chiefly only three things: (1) some form of shock therapy, (2) custodial care, (3) some type of brain operation. Psychotherapy, the backbone of psychiatry, was left out entirely. The attitude was that psychiatric interviews are only conversational. The impression was that occasional patients might be successfully treated by interview, but this was accomplished by one or two interviews only.

Fortunately, these erroneous views are disappearing. Concurrently with *medical* awakening has come great social concern over the extent of neuropsychiatric disability as dramatized by World War II. The tendency to dramatic and threatening exposés of conditions in state hospitals is abating. The few who have tried to do something for the sick under utterly discouraging conditions of public neglect and suspicion, lack of funds, antiquated crowded buildings, and woefully inadequate personnel should not be held responsible for a state of affairs no one condones. The responsibility belongs to those who have not tried to do anything for these unfortunate outcast sick. Realizing this, thoughtful leaders are giving positive support in very practical form. We are singularly fortunate in the willingness of the people, their representatives in the legislature, the executive office, the press, the university, and the medical profession to unite in a well-planned, properly equipped and financed all-out effort to care adequately for the emotionally sick, carry on research to increase our knowledge, and develop a far reaching mental hygiene program. We have a great opportunity and responsibility for leadership in this program. The best efforts and ideas of all will be needed in well coordinated teamwork to be worthy of the occasion.

The psychiatrist must make every effort to enlist the active cooperation of all physicians. They will not be found unwilling, but psychiatrists, from their own experience know the limited foundation, if any, their medical education gave them. Psychiatry must get closer to internal medicine, for intricate physiology and neurology are concerned in psychosomatic reactions and psychiatrists must keep up their general medical knowledge. General practitioners and specialists alike need to become better acquainted with psychiatry and mental hy-

giene. The logical meeting place is in staff conferences and joint rounds, and encouragement of general hospitals to add psychiatric services will contribute greatly to this objective. Preventive medicine has shown convincingly that assurance and protection of health greatly reduce later incidence of illness. Mental hygiene programs to be effective much reach individual children and adults in their own homes and communities. Localities must be encouraged to take active part in health measures. Cooperation with public health physicians can be of great assistance in this. Coupled with prevention is early diagnosis. This also must be carried out at the community level. Child guidance clinics, adult mental hygiene clinics, and psychiatric services of general hospitals are primary resources to be developed to utilize the therapeutic advantages gained when trouble is detected near its inception.

In the past, psychiatry has been narrowly construed as concerned with severe and far advanced types of reaction which come within the general designation of mental illness or psychosis. Gradually, the much more prevalent psychoneurotic reactions were added. With much more difficulty, the idea is being accepted that quarantine in jail or punishment as deterrents both overlook the fact that the delinquent and criminal are socially ill. This broadened concept now gives us the wide range of all forms of human maladjustments as a medical concern.

The narrowness of background experience in state hospitals has proved inadequate to our needs. Let me amplify this statement by saying these same state institutions given the necessary financial aid will be centers of treatment and psychiatric learning that the state will be most proud of. Say what you may, at the present time, state institutions are the backbone of psychiatry in our country today, in spite of the difficulties and handicaps they must operate under. Diversified education is needed to meet such extensive and complicated coverage as we now are called up to make. Teamwork can accomplish much that individuals cannot, and allows intensive development of special abilities. In hospitals and clinics teamwork among psychiatrists, internists, neurologists, neurosurgeons, neuropathologists, clinical pathologists, biochemists, anatomists, and all branches of the medical sciences has demonstrated its efficiency and effectiveness. In individual instances this team links up with others in the community, such as social workers and agencies, judges and courts, clergy, and interested lay groups. Such teamwork needs to be encouraged, and educational opportunities must be provided to assure a supply of all types of personnel if an extensive program is to be possible. These teams should be quarterbacked by top level psychiatrists.

Education is fundamental to the provision of adequate numbers of suitably trained personnel. The awakening of medical schools is quickly overcoming the deficiencies of the past. Students as undergraduates are obtaining much more foundation in mental hygiene and psychiatry than even a decade ago. This, in the future, will aid collaboration of physicians in all aspects of medical practice with psychiatry and mental hygiene. Many of the earlier and less severe problems can be handled where they are most accessible—by general practitioners—that are now either missed or referred to others. Graduate education in psychiatry must work out complicated problems. State hospitals often have men come for early experience and education, but are not able to give a graded experience. Psychoses and late illnesses generally are the most difficult of psychotherapeutic undertakings. Inexperienced persons should no more attempt such complex therapy first than should a new surgical resident attempt to remove a thyroid or a brain tumor. Much discouragement and pessimism about psychotherapy have resulted because education has not been graded. There can be no such things as "diagnostic psychiatry." No doctor can stand by and simply observe sickness and suffering; to attempt this means to harden the very sensitivity which makes him a physician. Our graduate education must include diverse graduation of experi-

ence and emphasis always upon treatment and ultimate prevention.

Noel Harris,[2] in his admirable book has made the following pertinent remarks:

"The human individual does not like to be puzzled to such an extent that it makes him feel frustrated. If he does feel frustrated, then he may project his own emotional reaction, which results from such puzzlement, on to the sick person. The herd tends to reject those who are an irritation to them. It is well known that certain races kill off or dispose of their senile or weakly members, in fact anyone who may endanger the security of the herd. This fact is closely linked with mythology and tribal customs (Frazer,[3] 1933). For much the same reason the herd rejects the mentally ill person.

"In more recent years this rejection has taken form of segregation and putting mentally ill persons in some place of retention in which they would not harm the herd, the emphasis thus being laid on disposal and retention rather than on cure of the illness. It is small wonder, therefore, that the herd as a whole developed a fear of mental illness, began to feel ashamed at the idea of such illness coming upon themselves or upon their family, and projected that fear on to those people who suffered from mental illness. It is this projection which even today leads people to think it is not "quite nice" to have a mental illness, to attach a stigma to mental illness and mental hospitals and to regard "nerves" as indicating lack of character, a sign of dissolute life, or at any rate a reflection on the person concerned."

Ultimately, in a free country, power is derived from, exercised for, and answerable to the individual citizen. Those to whom leadership is delegated are selected because they are qualified to lead in the direction which ultimately is best for all concerned. Easily stated in theory, this is difficult in practice, particularly when experience has but little to offer. We cannot be satisfied with the results of efforts made thus far, and must pioneer into uncharted territories. Mistakes can easily be made, and ultimate objectives may be lost sight of in the midst of criticisms and feelings then aroused. In this time of great responsibility and opportunity it would be tragic if we could not rise to the level of leadership entrusted to us. We should welcome differences of opinion and ideas other than our own. With the best brains and efforts of all combined we will still be able to see the road ahead only as far as our headlights, and we should not seek to travel faster than safety allows.

REFERENCES

1. Haun, Paul: Am. J. Psychiat. August 1950, p. 109.
2. Harris, Noel: Modern Trends in Psychological Medicine, 1948, New York, Paul B. Hoeber, Inc., page 1.
3. Frazer: Quoted by Noel Harris.[2]

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STUDY OF DIAGNOSTIC ERRORS

A review of 2600 case histories discussed at clinicopathological conferences has been given by Hunter. These were presented at the Massachusetts General Hospital and published in the New England Journal of Medicine. Approximately 100 diseases were misdiagnosed and there were 470 errors which the author thought significant. Among the 100 diseases, only 11 were misdiagnosed 10 or more times. Six of these 11 were neoplastic diseases. The occurrence in the order of frequency was:

Carcinoma of the body of the pancreas	22
Carcinoma of the colon	19
Lymphoma	17
Carcinoma of the lung	16
Carcinoma of the stomach	13
Carcinoma of the gallbladder	10

As frequently missed as carcinoma of the body of the pancreas was aortic and mesenteric vessel disease, occurring 22 times. Myocardial and lung infarcts occurred 13 and 10 times. Bacterial endocarditis was found misdiagnosed 17 times, and appendiceal disease 11.

The author remarked on the surprises found in the 22 misdiagnoses of carcinoma of the body of the pancreas. It was correctly diagnosed once in the twenty-five years under review. The predominant symptom of patients with carcinoma of the body of the pancreas was pain in the back. This pain, however, was variable as to relationship to position and followed no consistent pattern from patient to patient. Bizarre radiation of pain was thought to be the result of extension to the diaphragm and to the sciatic nerve. Symptomatology was further complicated by metastases to the mediastinum and pulmonary lymphatics, in 4 of the 22 patients, and by thromboses in 7.

The next surprise was the difficulty of diagnosing bacterial endocarditis in older people. This error occurred in 17 patients. The mistake was in building the diagnosis around the organs subject to embolism. The occurrences of erroneous diagnoses in these instances were nephritis in 6, pneumonia or empyema in 3, brain diseases in 3, nonbacterial aortic valve disease in 3, malignancy in 2, and bacteremia in 1. However, fever over 100° F. was found in 11 of 15 patients, and leukocytosis over 10,000 in 8 of 9 patients. Murmurs were attributed to fever, anemia, or nonactive valvular disease. In many patients, rheumatic heart disease had not been diagnosed. It was noted that the diagnosis of acute glomerulonephritis alone was given to 6 patients, in spite of the rarity of this condition in persons past 50. In 2 patients the diagnosis was not made, al-

though other findings were typical of bacterial endocarditis, because of repeated negative blood cultures, a condition reported to be more common in older than in younger patients with endocarditis.

Consideration of these facts brings the observation that errors in diagnosis may come in as many as 18 per cent, even in patients as thoroughly and thoughtfully studied as these. In 6 of the 11 diseases, the condition was carcinoma or lymphoma, bringing a total of 97 errors due to neoplastic disease. The error of the clinician in this type is not difficult to trace. He is apt to consider the disease of the organ affected to be a degenerative or infectious one in the absence of a specific test for malignancy.

In the 11 diseases misdiagnosed 10 or more times, the first symptoms of many are apt to be reported through the nervous system, in which case, it would be the location and not the origin or the nature of the pathology which is symptomatic. Apparently the further the disease is from the periphery, the greater the difficulty, particularly in the region of the celiac plexus or the mediastinum.

While the recurrence of diagnostic mistakes is understandable, it is still somewhat disquieting to realize that almost 20 per cent of terminal diagnoses may be in error. Further precision may be obtained in part when the clinician has a more comprehensive knowledge of pathology, but in greater part, when he has the means to differentiate the several pathologies which may give the same symptom complex. Even now, some degree of refinement may come if the clinician consciously reviews the possible divergent phases of pathology behind each serious clinical picture.

In the light of Hunter's review, the physician may properly approach diagnosis in a spirit of greater humility and greater diligence.

Hunter, W. S.: A study of diagnostic errors in clinicopathological conferences at the Massachusetts General Hospital during a 25-year period, Permanente Found. M. Bull., 10:306 (August) 1952.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

REPORTS FROM WASHINGTON

The House veterans subcommittee has held hearings on non-service care and it looks as though the committee will settle for a tightening up of VA's inability-to-pay regulations. This first came out in questioning of Dr. Walter Martin. Later, the VA testified it could not make changes in the admission form without additional legislation. Meanwhile, Congress has moved at a fast clip with an eye on adjournment around August 1. An announcement is due at any time on the nomination of an Assistant Secretary to Mrs. Hobby and there is a good chance the Special Assistant to the Secretary for Health and Medical Affairs in which we are all interested also will be named in time for Senate confirmation. More appropriations bills have passed and the House has taken action on the Food and Drug's factory inspection bill. Of interest in the light of the stalled Bricker resolution is the following report of a little-publicized hearing of a Senate Foreign Relations subcommittee.

The Senate Foreign Relations Committee has received assurances from State Department officials that in negotiating future bilateral treaties the administration will seek to write in exemptions for the professions, including medicine, from the most-favored-nation clause. A number of professional groups have been concerned over treaties that granted reciprocal rights for practice

without regard to state licensing regulations. The issue came up during hearings on pending treaties of friendship and commerce with Japan, Israel, Denmark, Greece, Ethiopia, and West Germany.

One proposal drawn up by the Senate committee states that reciprocal national treatment would not be extended "to professions which, because they involve the performance of functions in a public capacity or in the interest of public health and safety, are state licensed and reserved by statute or constitution exclusively to citizens of the country, and no most-favored-nation clause in the said treaty shall apply to such professions." State Department officials said they would make every effort to negotiate such a reservation in future treaties and if the Senate desired, it could send the pending treaties back for renegotiation.

CONFEREES AT ODDS ON PHS FUNDS; HOUSE VOTES COMMISSION FUNDS

Senate and House conferees have met for a second time without reaching agreement on the Department of Health, Education, and Welfare budget for the current fiscal year and another meeting has been scheduled. The Senate voted increases above the House totals in three Public Health Service programs, including Hill-Burton hospital construction, over which the conferees were reported deadlocked.

On another front, the House approved and sent to the Senate appropriations for the two commissions which came into being July 10. The Commission on Intergovernmental Relations would receive $500,000 to carry out its studies on the future extent of federal aid in such fields as health, education, and welfare. The Commission on Governmental Operations, which will carry on the reorganization work of the Hoover Commission, would receive $250,000 initially. Still pending are appointments to the commission by the President and Congress.

HOUSE VOTES CUT IN CIVIL DEFENSE MEDICAL STOCKPILING

Despite pleadings of some members, the House has voted to cut the administration's $82 million request for federal stockpiling of civil defense medical supplies to $20 million. The House also supported its Appropriations Committee in approving $3,070,000 for matching funds for state medical supply programs, instead of the requested $5.9 million. Any chance of restoring the funds rests with the Senate which has not yet acted.

The committee noted that through May 30, the Federal Civil Defense Administration had placed orders for $79,350,637 worth of medical supplies but only $41,977,144 had been delivered. It commented: "This merely points out the fact that FCDA has been unable to stockpile medical supplies in keeping with funds appropriated for this purpose by Congress. Progress has been made in this direction but much remains to be done." Additional cuts in operational funds voted by the House may seriously curtail activities of the health and special weapons defense office, FCDA said.

VA REORGANIZATION

Veterans Administration's reorganization plan, first outlined last winter, will go into effect September 7. In announcing this, Acting VA Administrator H. V. Stirling said Vice Admiral Joel T. Boone will continue as chief medical director of the Department of Medicine and Surgery as at present, and assume direction of the Special Services branch. The latter has supervision over chaplains, libraries, canteens, and recreation. Mr. Stirling says the plan will have these advantages: "In Washington there will be fewer officials reporting directly to the administrator; staff and operating responsibilities will be clearly separated at all levels and there will be increased delegations of authority to the field."

AMA STAND ON NON-SERVICE VA CARE OUTLINED TO HOUSE GROUP

American Medical Association's opposition to further treatment in VA hospitals of veterans with non-service-connected disabilities, other than tuberculosis or neuropsychiatric disorders, was formerly placed before Congress July 13. Dr. Walter B.

Martin, president-elect, was opening witness on the fourth day of hearings by the hospitalization subcommittee headed by Rep. B. W. (Pat) Kearney (R., N. Y.). The group is inquiring into hospital entitlement of veterans.

Dr. Martin made it clear that Congress should enact legislation limiting medical and hospital care for veterans in VA and other federal hospitals to (1) men with peacetime or wartime service whose disabilities or diseases are service-connected and (2) within limits of existing facilities, to veterans with wartime service suffering from tuberculosis or neuropsychiatric disorders of non-service origin who are unable to pay for hospitalization. He further proposed that (1) care for the remaining non-service veterans be discontinued and their responsibility revert to the individual or in the case of the indigent veteran, to the community and (2) Congress reanalyze the entire question of whether the non-service chronically ill is a federal or local responsibility.

Acting VA Administrator H. V. Stirling argued, on the other hand, that to exclude veterans with acute non-service disorders who are not eligible for compensation or pension would be "a substantial reversal of long-existing legislative policy." He said it would require the determination that "the government owes no obligation of this kind to these veterans, however indigent."

Points made by other witnesses included:

National Medical Veterans Society (Dr. William B. Walsh): Should eligibility for hospitalization remain as broad as it is now, the burden on the public by 1970 will reach fantastic proportions. *American Dental Association* (Francis J. Garvey): The association opposes VA care for the non-service-connected tooth and "firmly believes that the obligation to care for one's health is primarily the obligation of the individual." *American Psychiatric Association* (Dr. David J. Flicker): Under present VA policy, it is becoming increasingly difficult to staff enough neuropsychiatric beds for non-service-connected veterans.

W. B. MARTIN, M. D.

To the Committe on Ways and Means

HOUSE OF REPRESENTATIVES

The following statement by the president-elect of the AMA might be gratifying or at least give some satisfaction to those members and non-members, who quite frequently ask, what do I get for my $25.00 AMA dues? Mr. Martin's plea for a favorable ruling on this subject, so vital to our members, in itself, may be responsible for saving you the total cost of $25.00, the amount of dues in your national organization. This is only one of the many things AMA does for you.

On June 18, 1953, Dr. Martin testified as follows: "I am appearing today as a representative of the AMA relative to the deduction of college and educational expenses for income tax purposes . . . A total of 134 agencies offer postgraduate medical training, including 43 medical schools, 35 special medical societies, 18 hospitals, 12 academies of general practice, 11 state medical societies, 6 graduate schools of medicine and 3 agencies representing boards of health, schools of public health and government departments respectively . . .

"For a considerable number of years, the House of Delegates and the Board of Trustees of the Association have expressed concern over a ruling by the Commissioner of Internal Revenue holding that expenses incurred by a physician in pursuing postgraduate medical education are personal in nature and therefore, NOT DEDUCTIBLE for federal income tax purposes. It has been extremely difficult to understand the validity of such a ruling because of the fact that physicians have been permitted to deduct the costs of attending medical meetings, of subscriptions to scientific publications and dues paid to medical societies.

"Some time ago the Board of Trustees authorized the employment of a special tax counsel to pursue this matter ON BEHALF OF MEMBERS OF THE ASSOCIATION . . . In an unsuccessful effort to obtain a new ruling from the Bureau of Internal Revenue, it was learned that there was

pending before the United States Tax Court a case in which a lawyer had been denied the right to deduct expenses incurred by him in attending postgraduate courses on taxes . . . The Tax Court held against the taxpayer, and an appeal was made to the United States Court of Appeals. On April 14, the United States Court of Appeals reversed the decision of the United States Tax Court holding, in effect, that expenses incurred by the attorney in taking a postgraduate course WERE DEDUCTIBLE FOR INCOME TAX PURPOSES.

"While it is the belief of the AMA that this decision probably applies to the practicing physician who attends postgraduate courses which are similarly designed to refresh his medical knowledge and to keep him informed regarding recent medical developments, it is by no means clear that the Court's decision covers attendance at postgraduate courses which are designed to advance the physician into a new area of his profession . . .

"In view of these areas of doubt, it is the belief of the American Medical Association that the issue should be settled by new legislation rather than be left to administrative interpretation or judicial decision. We would strongly urge, therefore, that your committee give favorable consideration to an amendment to the existing law authorizing the deduction of postgraduate educational expense for income tax purposes."

LOUISIANA STATE MEDICAL SOCIETY NEWS

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Morehouse	Third Thursday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

1954 POSTCLINICAL TOUR OF THE NEW ORLEANS GRADUATE MEDICAL ASSEMBLY

The seventeenth annual meeting of The New Orleans Graduate Medical Assembly will be held March 8-11, and will be followed by a postclinical tour to Hawaii.

The group will leave Los Angeles via Pan American World Airways on March 14 and accommodations have been secured at the Royal Hawaiian Hotel in Honolulu, Island of Oahu.

After an interesting sightseeing schedule, the group will leave on Wednesday, March 17, for the Island of Kauai, where reservations have been made at the Kauai Inn. Visits will also be made to Hilo and the Kona Coast. The party will return to Honolulu for several days prior to sailing on the S. S. Lurline on Thursday, April 1. Arrangements have been made for visits to hospitals and for various medical programs.

Reservations are limited and are now being accepted. For a complete itinerary, contact the office of The New Orleans Graduate Medical Assembly, Room 103, 1430 Tulane Avenue, New Orleans 12.

MEETINGS

CONGRESS OF NEUROLOGICAL SURGEONS

The third annual meeting of the Congress of Neurological Surgeons will be held at the Roosevelt Hotel in New Orleans on November 12, 13 and 14, 1953. An interesting program has been arranged and members of the medical profession in the vicinity of New Orleans at this time are welcome to attend.

AMERICAN COLLEGE OF CHEST PHYSICIANS

The 20th Annual Meeting of the American College of Chest Physicians will be held in San Francisco, California, June 17-20, 1954. Physicians interested in presenting scientific papers on any phase in the diagnosis and treatment of heart and lung disease should send a 100 word abstract, not later than January 1, 1954, to Doctor Edgar Mayer, Chairman of the Committee on Scientific Program, 850 Fifth Avenue, New York 21, New York.

NATIONAL GASTROENTEROLOGICAL ASSOCIATION

The National Gastroenterological Association will hold its Eighteenth Annual Convention and Scientific Sessions at The Biltmore Hotel in Los Angeles on October 12, 13, 14, 1953.

The program will include a Symposium on Cirrhosis of the Liver; Panel Discussions on "Peptic Ulcer"; "Diseases of the Large Bowel" and "Latest Developments in Cancer Research."

There will be additional papers on interesting subjects in gastroenterology and related fields.

Following the Convention, on October 15, 16, 17, 1953, the Association's Fifth Annual Course in Postgraduate Gastroenterology will be given at The Biltmore Hotel and the College of Medical Evangelists in Los Angeles. The Course will be under the personal direction of Drs. Owen H. Wangensteen of Minneapolis, Minn., and I. Snapper of Chicago, Ill., who will be assisted by a faculty from the medical schols in and around Los Angeles.

The Scientific Sessions on October 12, 13 and 14 are open to all physicians without charge. The Postgraduate Course will only be open to those who have matriculated in advance.

Further information concerning the program and details of the Postgraduate Course may be obtained by writing to the Executive Officer, National Gastroenterological Association, 1819 Broadway, New York 23, N. Y.

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FELLOWSHIPS FOR BASIC RESEARCH IN ARTHRITIS

The Arthritis and Rheumatism Foundation is offering the following research fellowships in the basic sciences related to arthritis:

1. Predoctoral fellowships ranging from $1,500 to $3,000 per annum, depending on the family responsibilities of the fellow, tenable for 1 year with prospect of renewal.
2. Postdoctoral fellowships ranging from $3,000 to $6,000 per annum, depending on family responsibilities, tenable for 1 year with prospect of renewal.
3. Senior fellowships for experienced investigation will carry an award of $6,000 to $7,500 per annum and are tenable for 5 years.

The deadline for applications is November 1, 1953. Applications will be reviewed and awards made by February 15, 1954. For information and application forms address the Medical Director, The Arthritis and Rheumatism Foundation, 23 West 45th Street, New York 36, N. Y.

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EIGHTH ANNUAL POSTGRADUATE COURSE ON DISEASES OF THE CHEST

The Council on Postgraduate Medical Education of the American College of Chest Physicians, in cooperation with the respective state chapters of the College as well as the staffs and faculties of the local hospitals and medical schools, will sponsor the Eighth Annual Postgraduate Course on Diseases of the Chest at the Hotel Knickerbocker, Chicago, Illniois, September 28-October 2, 1953, and the Sixth Annual Postgraduate Course on Diseases of the Chest to be held at the Hotel New Yorker, New York City, November 2-6, 1953.

These annual postgraduate courses endeavor to bring physicians up to date on recent advancements in the management and treatment of heart and lung disease. Tuition for each course is $75.

Further information may be secured by writing to the Executive Director, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.

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PROCTOLOGIC RESEARCH FELLOWSHIP GRANT

The International Academy of Proctology announces the establisment and award of a one year Proctologic Research Fellowship in the amount of $1200.00. This Research Fellowship grant has been awarded to the Jersey City Medical Center, New Jersey, to be administered under the direction of Dr. Earl J. Talligan, Surgical Director of the Medical Center.

Dr. Halligan is a former International President of the Academy. The Board of Trustees of the International Academy of Proctology will vote another Fellowship grant of a similar amount at the time of the next Annual Meeting of the Academy. Thus, there will be at least two Research Fellowship studies in progress, in different institutions, under the auspices of the International Academy of Proctology.

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1954 COLLEGE ESSAY AWARD

The Board of Regents of the American College of Chest Physicians offers three awards to be given annually for the best original contribution, prepared by any medical student studying for the degree of Doctor of Medicine, on any phase relating to the diagnosis and treatment of chest disease.

The first prize will consist of a cash award of $250 and a certificate. The second and third prizes will be certificates of merit. The Essay Award is open to all medical students in accredited medical schools throughout the world.

The winning contributions will be selected by a board of impartial judges and wil be announced at the 20th Annual Meeting of the American College of Chest Physicians to be held in San Francisco, California, June 17-20, 1954. All manuscripts become the property of the American College of Chest Physicians and will be referred to the Editorial Board of the College journal DISEASES OF THE CHEST for consideration. The College reserves the right to invite the winner of the first prize to present his contribution at the Annual Meeting.

Applicants are advised to study the format of DISEASES OF THE CHEST as to length, form,

and arrangement of illustrations to guide them in the preparation of the manuscript. The following conditions must be observed:

1. Five copies of the manuscript typewritten in English (double spaced) should be submitted to the Executive Director, American College of Chest Physicians, 112 East Chestnut St., Chicago 11, Illinois, not later than March 15, 1954.
2. The only means of identification of the author shall be a motto or other device on the title page and a sealed envelope bearing the same motto on the outside enclosing the name and address of the author.
3. A letter from the Dean or Chairman of the Department of Medicine of the medical school certifying that the author is a medical student studying for the degree of Doctor of Medicine and that the contents represent original work.

WOMAN'S AUXILIARY TO THE LOUISIANA STATE MEDICAL SOCIETY

OUACHITA PARISH

At a recent meeting and "Doctor's Day" celebration the president of the Woman's Auxiliary to the Ouachita Parish Medical Society, Mrs. James W. Schonlau, presented a check for $50 to Mrs. DeWitt Milam, state chairman of the American Medical Education Foundation. The contribution, which was given in memory of deceased doctors of Ouachita Parish, was designated to be divided between Louisiana State University and Tulane Medical schools.

ORLEANS PARISH

Woman's Auxiliary to Orleans Parish Medical Society sponsored a night at "Pops" for the first time in the history of the organization. Miss Dorothy Sarnoff was soloist for the evening. Mrs. Edwin R. Guidry, president, was presented a plaque from the Pops organization by Mr. Irwin Poché.

RAPIDES PARISH

Mrs. John S. Rozier was elected president of Woman's Auxiliary to Rapides Parish Medical Society. Other officers elected were Mrs. M. S. Freiman, president-elect; Mrs. Arthur L. Seale, vice president; Mrs. John Worley, recording secretary; Mrs. R. G. Masterson, corresponding secretary; Mrs. David Trax, treasurer; Mrs. Clarence Pierson, historian; and Mrs. Daniel M. Kinsley, parliamentarian.

LAFAYETTE PARISH

Mrs. J. R. Ferguson was elected president of the Lafayette medical auxiliary. Others officers elected were Mrs. F. M. Harrell, vice-president; Mrs. J. J. Burdin, secretary; Mrs. Thomas Latiolais, treasurer; and Mrs. Mims Mitchell, Jr., historian. At the state convention of the Woman's auxiliary to the Louisiana State Medical Society held recently Mrs. J. Boring Montgomery was elected first vice-president.

WOMAN'S AUXILIARY TO AMA

At the thirtieth annual convention of the Woman's Auxiliary to the American Medical Association which was held in New York, June 1-5, 1953, Mrs. DeWitt Milam of Monroe, Louisiana, was elected fourth vice-president for the year 1953-54. Mrs. Arthur A. Herold of Shreveport, was appointed chairman of the Revisions Committee.

At the convention, recommendation was made and approved to contribute $10,000 of the auxiliary's funds to the American Medical Education Foundation, and $100 to the World Medical Association. Membership of the Woman's Auxiliary was reported to be 63,825.

Mrs. George M. Haik,
State Publicity Chairman.

BOOK REVIEWS

Practical Dermatology, for Medical Students and General Practitioners; by George M. Lewis, M.D. Philadelphia, W. B. Saunders Co., 1952. Pp. 328. Price $7.50.

Designed as a text for medical students and general practitioners, this book is a lucid, usable, elementary guide for the nondermatologist and deals mainly with the diagnosis of the more common skin diseases. The material is arranged with the more important portions in heavy print thereby making information readily available. Photographs, numerous for a book of this size, are excellent. Emphasis on the fungus diseases reflects the author's previous authoritative publications and is notable by comparison with the relatively brief portion on contact dermatitis. Although up to date, treatment in the major part of the text is brief and not detailed. To compensate for this, a dermatologic formulary is included in the final chapter. Medical schools should recommend this text to their students.

James W. Burks, Jr.

PUBLICATIONS RECEIVED

J. B. Lippincott Co., Phila.: New and Nonofficial Remedies, by members and Consultants of the Council on Pharmacy and Chemistry.

W. B. Saunders Co., Phila.: Mechanisms of Urologic Disease, by David M. Davis, M. D.

Charles C Thomas, Springfield, Ill.: Copying and Duplicating Medical Subjects and Radiographs, by H. Lou Gibson, Technical Editor, Eastman Kodak Company.

Clinical Results* with Banthine® Bromide

(Brand of Methantheline Bromide)

22 Published Reports Covering Treatment of 1443 Peptic Ulcer Patients with Banthine

Comprising the reports published in the literature to date which give specific facts and figures of the results of treatment

AUTHORS	No. of Patients	Chronic Resistant to Other Therapy	TYPES OF ULCERS				RELIEF OF SYMPTOMS (Chiefly Pain)				Surgery or Complications[1]	Side Effects Requiring Discontinuance of Drug[2]	EVIDENCE OF HEALING			
			Duodenal	Jejunal	Stomal	Gastric	Good	Fair	Poor	No Report			Complete	Moderate	None	No Report
Grimson, Lyons, Reeves	100	100	93	7			80	11	4		5		47		19	29
Friedman	15	15	14			1	5		4	6[3]			2			13
Bechgeerd, Nielsen, Bang, Gruelund, Tobiassen	26	26	21			5	16	4	6				8	6	12	
McHardy, Browne, Edwards, Marek, Ward	162		162				136	12	11		3	1	14	9	7	129
Segal, Friedman, Watson	34	34	34[4]				14	13			7	2	5		8	14
Brown, Collins	117	99	117				97	7	8		5	8	55	9	8	40
Asher	77		65		7	5	52	9	16			16		9	21	47
Rodriguez de la Vega, Reyes Diaz	5	4	5				4		1					3	2	
Winkelstein	116	116	102	8		6	102		14				53		18	45
Hall, Hornisher, Weeks	18	18	18				11		1	6[5]			18			
Maier, Meili	38	38	24			14[6]	27	7	4[7]				10	2	5	21
Meyer, Jarman	25	18	25				21		4							25
Poth, Fromm	37	37	37				33	3	1				33	3	1	
Plummer, Burke, Williams	41	41	41				36		5				38		3	
McDonough, O'Neil	104	100	104				63	10	31			11	4		11	89
Broders	60	60	58		1	1	35	19	6				10	1	49[8]	
Legerlon, Texter, Ruffin	11		11				11									11
Holoubek, Holoubek, Langford	76	69	76				35	27	10		4	10	26		10	36
Ogborn	42		39	2		1	42[9]									42
Shaiken	48	48	48				33	10	3		2		33	10	3	
Johnston	145	145	145				143		2			2	143		2	
Rossett, Knox, Stephenson	146		141			5	146					4[10]	53			93
TOTALS	1443	968	1380	17	8	38	1142	132	131	12	26	54	552	52	179	634
PERCENTAGES		67.8	95.6	1.2	0.6	2.6	81.3	9.4	9.3			3.7	70.5	6.6	22.9	

1. Not included in tabulations.
2. Included in "Relief of Symptoms" as "Poor" and in "Evidence of Healing" as "None."
3. Four had no symptoms when Banthine therapy was begun.
4. Of which seven were penetrative lesions and five partially obstructive.
5. No symptoms were present in four.
6. Two with symptoms only; no demonstrable ulcer.
7. Three were psychopathic patients and one had a ventricular ulcer of the lesser curvature.
8. Roentgen findings after treatment period of two weeks; forty-seven had duodenal deformity.
9. All returned to work within a week.
10. In these four, after relief of symptoms, Banthine was discontinued because of urinary retention.

During the past three years, more than 250 references to Banthine therapy in peptic ulcer and other parasympathotonic conditions have appeared in medical literature. Of these reports, 22 have presented specific facts and figures on the results of treatment in a total of 1,443 peptic ulcer patients, 67.8 per cent of whom were reported as chronic or resistant to other therapy. These results are tabulated above and show:

"Good" relief of symptoms was obtained in 81.3 per cent of the 1,405 patients on whom reports were available.

"Complete" evidence of healing was obtained in 70.5 per cent of the 783 patients on whom reports were available.

In all but 9.3 per cent, relief of pain was "good" or "fair." In all but 22.9 per cent, evidence of healing was "complete" or "moderate."

During treatment, 26 patients required surgery or developed complications other than ulcer which required discontinuance of the drug before results could be evaluated.

Of the remaining 1,417 patients, only 3.7 per cent experienced side effects sufficiently annoying to require discontinuance of the drug.

*Volume containing complete references, with abstracts of 39 additional reports, will be furnished on request by

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Formula:

Each 5 cc. (approximately one teaspoonful) contain 100 mg. 'Ilotycin' as the ethyl carbonate.

Dosage:

15 pounds—1/2 teaspoonful every six hours

30 pounds—1 teaspoonful every six hours

60 pounds—2 teaspoonfuls every six hours

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*Perloff, W. H.: Am. J. Obst. & Gynec. *58*:684 (Oct.) 1949.

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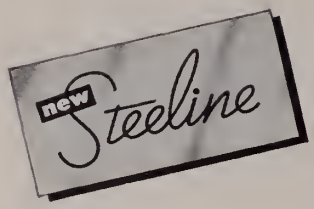

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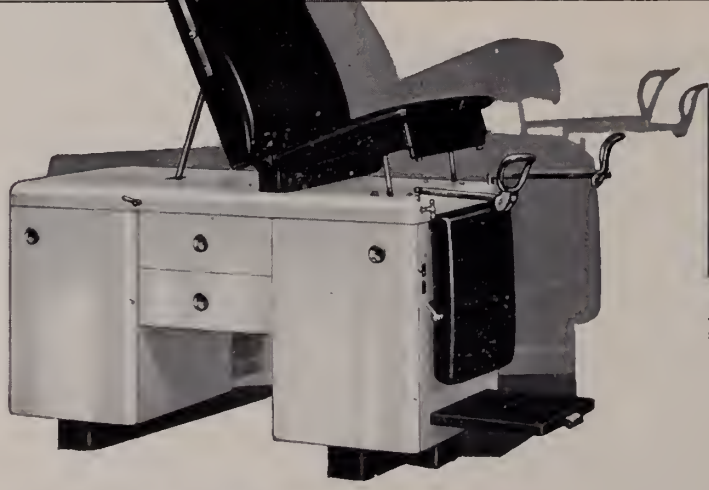

With table as nucleus, other New Steeline pieces form treatment room group complete in all respects.

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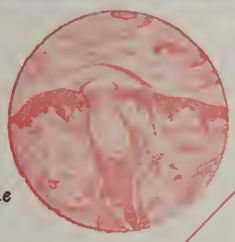
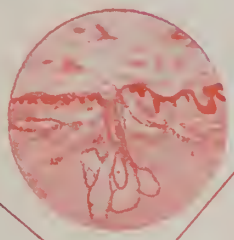
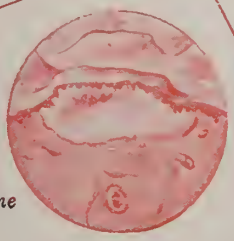
impetigo

skin infections and antibiotics


acne


pyoderma

folliculitis


erythema multiforme

Since cutaneous bacterial infections "probably account for more disability than any other group of skin diseases,"[1] the availability of broad-spectrum Terramycin has been particularly helpful in controlling these common disorders. This pure, well-tolerated antibiotic is markedly effective against the wide range of organisms often implicated as primary or secondary pathogens in skin disease. Successful clinical experience[2,3,4] in the treatment of impetigo, acne, pyodermas, erythema multiforme and other cutaneous infections recommends the selection of Terramycin as an agent of choice in common diseases of the skin. Terramycin is supplied in convenient oral and intravenous dosage forms.

1. *Bednar, G. A.: South. M. J. 46:298 (March) 1953.*
2. *Wright, C. S. et al.: A. M. A. Arch. Dermat. & Syph. 67:125 (Feb.) 1953.*
3. *Robinson, H. M. et al.: South. M. J. (in press).*
4. *Andrews, G. C. et al.: J. A. M. A. 146:1107 (July 21) 1951.*

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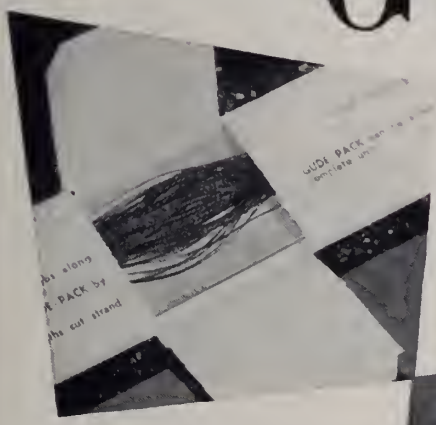

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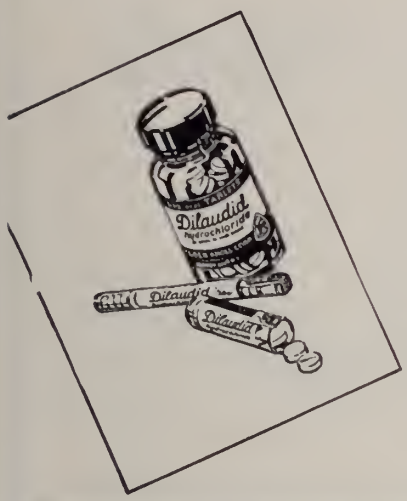

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THURSDAY—November 12, 1953

9:00—10:00 A.M.—Registration
10:00—11:00 A.M.—Business Meeting; Election of Officers
11:00—12:00 A.M.—Sir Goeffrey Jefferson, Consulting Neurosurgeon, Manchester Royal Infirmary, Manchester, England
12:00— 2:00 P. M.—Committee Luncheons
2:00— 4:00 P. M.—Panel Discussion: "The Anatomy and Physiology of the Frontal Lobes"
Robert Heath, Moderator, Professor Neurology & Psychiatry, Tulane University
Stanley Cobb, Bullard Professor Neuropathology, Harvard Medical School
Harold Hemwich, Research Director Galesburg State Hospital, Galesburg, Illinois
Gerhardt von Bonin, Associate Professor Anatomy, University of Illinois
A. Earl Walker, Professor Neurological Surgery, Johns Hopkins University
4:00— 5:00 P. M.—Member inventors may present instruments or gadgets

FRIDAY—November 13, 1953

9:00—11:00 A.M.—Panel Discussion: "Psychosurgery: Indications and Sequelae"
A. Earl Walker, Moderator
Stanley Cobb
Gerhardt von Bonin
J. Lawrence Pool, Professor & Director Neurological Surgery, Neurological Institute & Presbyterian Hospital, New York
11:00—12:00 A.M.—Sir Goeffrey Jefferson—Topic Unannounced
12:00— 2:00 P. M.—Committee Luncheons
2:00— 6:30 P. M.—Free Afternoon
6:30— 8:00 P. M.—Cocktail Party
8:00 P. M.—Banquet and Dance

SATURDAY—November 14, 1953

9:00—11:00 A.M.—Panel Discussion: "The Use of Fluids and Electrolytes in the Management of the Neurological Patient"
Hyman Mayerson, Moderator, Professor Physiology, Tulane
Alton Ochsner
J. Lawrence Pool
A. Earl Walker
Walter Wilde, Department Physiology, Tulane
11:00—12:00 A.M.—Sir Goeffrey Jefferson—Topic Unannounced

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Seminar on Low Back Pain, February 27-28, 1953.

Symposium on Neoplastic Disease, March 12-13, 1953.

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The American Cancer Society points out that the present cure rate of lung cancer is only five per cent. Early detection with x-rays in the silent stage, before symptoms, could raise this figure to more than fifty per cent. The film, therefore, is designed to persuade men over 45 years of age to have chest x-rays made every six months to detect possible lung cancer while it is in the early curable stage.

The American Cancer Society, Inc., 822 Perdido Street, New Orleans, La., will be glad to arrange for free showings of this film.

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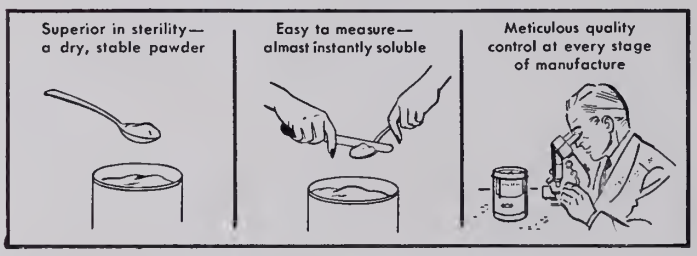

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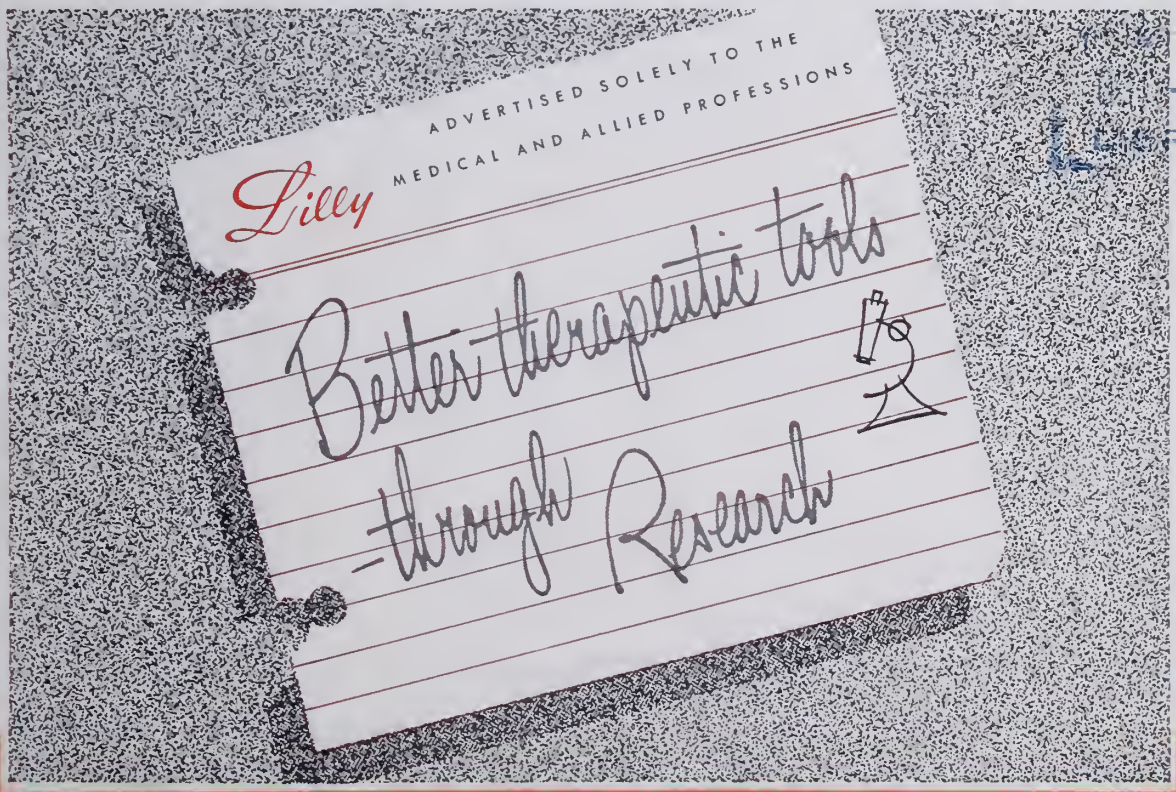

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The present fluoridation effort has caused the Louisiana State Department of Health to become increasingly aware of the probable relationship between fluoride concentration in a drinking water supply and climate. The average mean temperature in the United States varies from 40°F. and below for the northern states to 70°F. and above in some of the southern states. Since Louisiana is to be found in the lower tier of states and having an average mean temperature of 70°F. or higher, it is thought that Louisiana's children and youth will probably drink more water than children and youth from the midwest. However, no data is available to the State Health Department that would indicate how much if any more water is consumed.

It is known that in the northern and midwestern states the severity of mottled enamel has a specific relationship to the fluoride content of water consumed, and it has been suspected for some time that in Louisiana, there is a relationship between long, hot summer weather, amounts of water consumed, its fluoride content, and the severity of mottled enamel.

In 1952, the Dental Health Section attempted to establish this suspected relationship by examining the teeth of all children from 6 through 16 years of age, who had been continuous residents of the community and had continuously consumed fluoride water in the amount of 1 p.p.m. It soon became apparent, after the survey began, that there were too few children in the only two communities having 1 p.p.m. of fluoride in the municipal water supply to establish conclusive data.

It would seem that recent investigations made by the U. S. Public Health Service in 6 Arizona cities, where there is an average mean temperature of 70° F. or more, would assist Louisiana in establishing a firmer fluoridation policy. These investigations were based upon known data, that there is a direct quantative relationship between fluoride and mottled enamel and the inverse relationship between fluoride and dental caries experience. The purpose of this study was to determine:

1. The fluorosis index to measure the extent of mottled enamel.
2. The decayed missing filled (DMF) index as a measurement of caries experience.

A careful analysis of the available portion of this study demonstrates the concentration of fluoride in the drinking water of:

1. More than 0.8 parts per million results in objectional dental fluorosis.
2. From 0.6 to 0.8 p.p.m. results in occasional objectional fluorosis.
3. Below 0.6 p.p.m. no objectionable fluorosis.

The portion of the study dealing with the DMF index as a measure of caries experience has not been published. However, the investigator has stated, in private interview, that the reduction of caries at 0.6 p.p.m. of fluoride in the drinking water is approximately two thirds.

It would seem reasonable to think that children of Louisiana would drink more water than children from temperate climate but because of high humidity less than children from Arizona.

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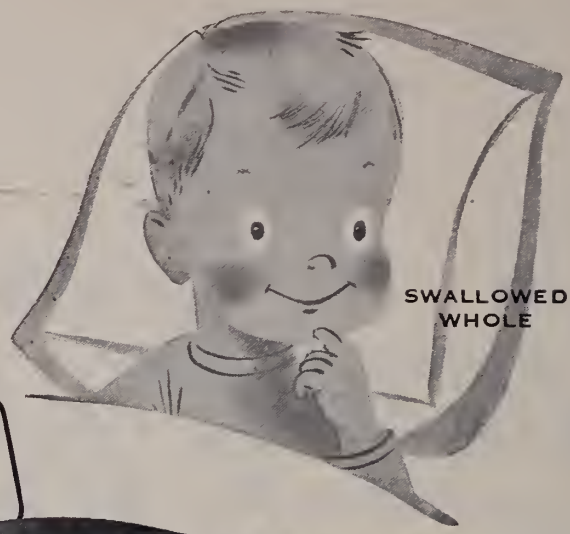

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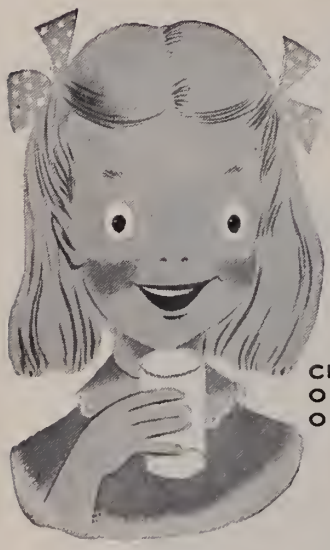

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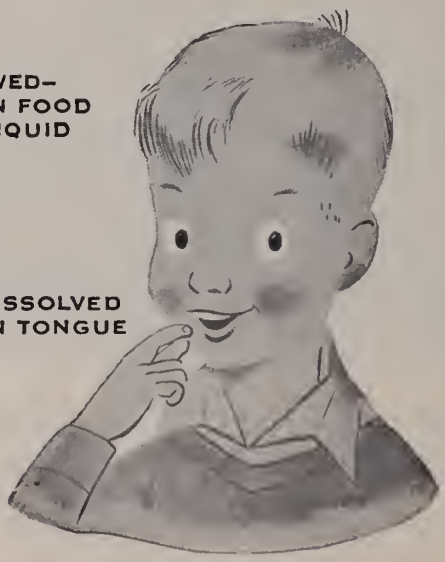

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1. Heller, E. M.: The Treatment of Essential Hypertension. Canad. Med. Assn. Jour., 61:293, Sept., 1949.

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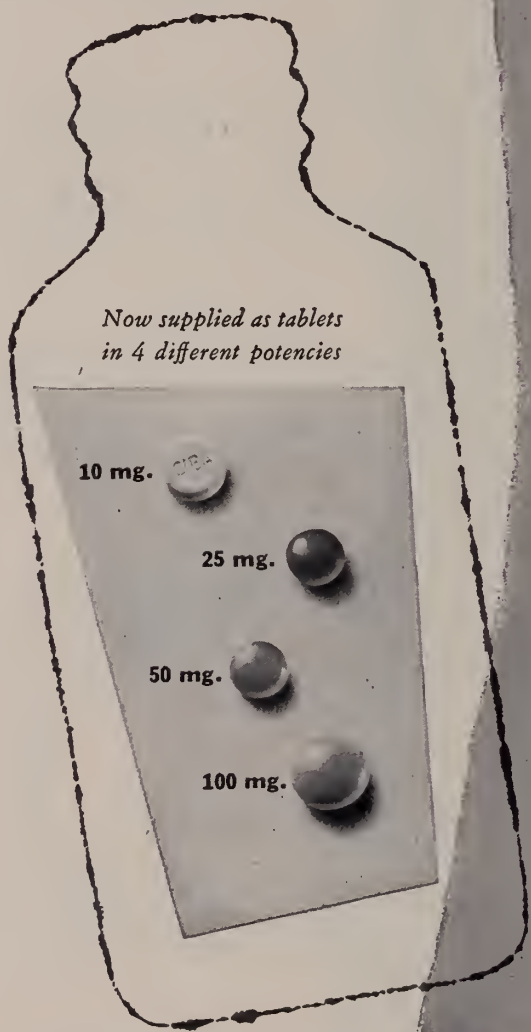

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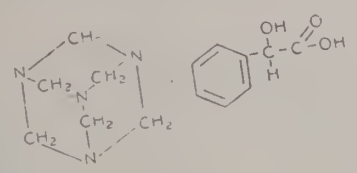

For tests and standards see Section B.

Actions and Uses.—Methenamine mandelate combines the actions of two established urinary antiseptics, methenamine and mandelic acid. The compound has the advantage that it acts to some extent as an acidifying agent, so that accessory medication to accomplish this is not ordinarily required as it is when either methenamine or mandelic acid is administered alone. However, in those infections caused by urea-splitting bacteria, preliminary acidification of the urine over a period of 24 to 36 hours prior to beginning therapy is essential to provide a urinary pH satisfactory for effective action of the compound. The combination also has the theoretic advantage that it is effective with smaller amounts of mandelic acid and may thus avoid the nausea and vomiting occasionally attributed to the use of mandelic acid alone.

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DIAGNOSIS OF PULMONARY LESIONS*

CHRISTOPHER PARNALL, JR., M. D.†
ROCHESTER, NEW YORK

The diagnosis of pulmonary lesions is relatively easy because of the definite graphic methods involved. As in the case of all ailments, we should try to make the diagnosis of lung disease as early as possible—that is, before symptoms occur. The simplest way to accomplish this is to do routine examinations of the chest by x-ray methods. This means a routine chest film on anyone consulting a physician for the first time, at initial visits to hospital clinics, admission to hospitals, on employment, mass surveys, etc. These should be repeated at least annually—in the case of males over 40 who smoke, semiannually.

Figure 1

The following illustrations show lesions discovered in apparently healthy individuals. They were taken simply as a routine measure. Fig 1 shows an active tuberculous lesion in a girl of 20. Fig. 2 shows a

Figure 2

*Presented at the Seventy-third Annual Meeting of the Louisiana State Medical Society in New Orleans, May 9, 1953.

†Rochester General Hospital, Rochester, New York.

bronchogenic carcinoma in a man of 42 who was an excessive cigarete smoker. Fig. 3 shows far-advanced tuberculosis in a man of 72.

Figure 3

The main symptoms relative to lung diseases are: cough, sputum, hemoptysis, and chest pain. If any of these occur in the interval between routine films, another chest film must be taken.

In Fig. 4, you see the film of a 30 year old male who developed only a feverish feeling and a slight nonproductive cough about two hours before the film was taken. Chest examination was negative. Film shows an area of pneumonia in the right lung which promptly responded to an antibiotic.

If most lung diseases are found early enough, there will be no physical findings in the chest. Only gross disease will produce them. It is perhaps more important to do a complete examination of the body other than the chest. In Fig. 5, you see the film of a young man taken as a routine measure and showing a density in the right lung. As you would expect, the chest examination was negative. However, a careful complete

Figure 4

Figure 5

physical examination revealed a small malignant tumor of the right testicle, of which the patient himself was unaware.

The laboratory may help. A routine blood examination may show abnormal cells in the smear, which may lead to a clinically silent lymphosarcoma to explain a density in the chest film. The urine may show abnormalities which may indicate a renal tumor. In one case a puzzling lung lesion was made definite by a bone marrow aspiration, which showed the presence of abnormal plasma cells—plasmacytoma.

We hope to find most lung disease before the production of sputum occurs. If it is present, it should be thoroughly examined, if it is to be examined at all. Smears must be stained by more than one technique and examined for more than one thing. All types of organisms must be sought. All types of cells must be considered. All types of organisms must be kept in mind in culturing the material—common pathogens, tuberculosis bacilli, and fungi: To pay attention to only one thing may be fatal for your patient. Regard Fig. 6, the chest film of an older man, who had sputum positive on direct smear for acid-fast organisms. His clinical picture, chest film and sputum smear all indicated unequivocal diagnosis of pulmonary tuberculosis. However, look at Fig. 7, the routine cytologic smear. Malig-

Figure 6

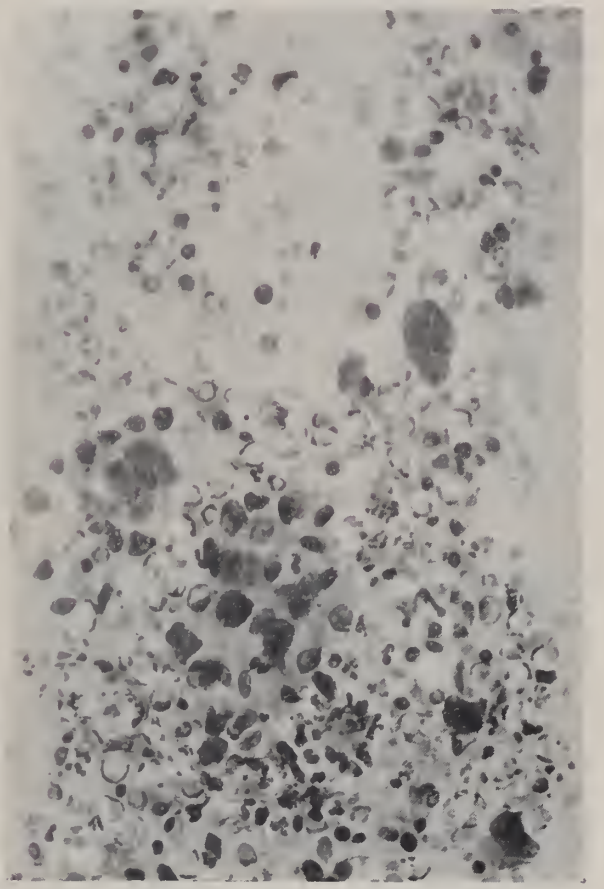

Figure 7

nant cells are seen. On autopsy he was found to have both active cavernous tuberculosis and an inoperable bronchogeic cancer. In Fig. 8, you see the film of a 44 year old man with a lesion which was clinically apparently definitely an acute pneumococcal pneumonia. Sputum cultures showed large numbers of these organisms. Concomitant with the administration of aureomycin the lesion rapidly and completely cleared—Fig. 9. However, a routine tuberculosis culture was reported positive for tubercle bacilli a month after he had left the hospital. By searching the local taverns he was finally found and a chest film showed (Fig. 10) a new lesion, which on

Figure 8

Figure 9

further study proved to be definitely tuberculous.

Now we come to the x-ray examination. This is by far the most important single available diagnostic tool. Here is a machine which can find disease in the lung long before clinical (and you recall that clinical means "bed-side") methods can reveal it. I must admit, though, that some degree of either artful science or scientific art on the part of the doctor is necessary for extracting the meaning of the findings. We do not yet have a medical Mark IV. If you will look at Fig. 11, you will see the film of a 52 year old man, whose main complaint was a low backache. He also had a "cigarette cough," which had not changed for years. In addition he had moderate angina pectoris and some dyspnea on exertion. The film was taken as a routine matter and shows no changes other than those related to the cardiovascular system. Yet at this very moment he had a tiny bronchogenic carcinoma no bigger than a pea in his left main bronchus, which had already metastasized to his mediastinal lymph nodes, liver, adrenals and bones, as an autopsy some days later showed. He died from a massive intestinal hemorrhage from an ulcerated metastatic lesion. This type of thing, however, is extremely rare. In general, one can say that the examination of the chest is in-

Figure 10

Figure 11

complete without an x-ray film. If you use a photo-fluorographic apparatus with the 5 by 4 film, you can get a picture which compares well with the usual 14 by 17 film and is much cheaper, quicker, and easier to do. Fluoroscopy in the hands of a man well trained and experienced in its use is a possible substitute, but will miss the small early lesions we wish to find.

In considering the x-ray examination we should not forget regions of the body other than the lungs. A bronchogenic carcinoma can be either solitary or diffuse and either localized in the chest or metastatic to other regions. So also a neoplasm primary elsewhere in the body may metastasize to the lungs and there appear either as a solitary density or diffuse shadow. Thus the bones, gastrointestinal tract, and kidneys must usually be examined in addition to the chest. It is rather difficult for the patient to have a lung, or part of it, removed, only to find out that it is a metastatic tumor from the kidney.

This brings up a point. The doctor no longer can salve his conscience by saying that facilities are not available for taking chest films. The profession owes it to the public to make necessary services available by one means or another. Private donations or community or state funds can usually be interested in matters genuinely affecting the public's health. It is not inconceivable that medical society funds might be justly invested in such a project on a non-profit basis. Remember this: if we don't, that old ogre we are afraid of will.

No density on a chest film is diagnostic of any particular disease. The same shadow may represent tuberculosis, pneumonia, cancer, or fungus disease. Special types of films may help. A lateral film may add a good deal to the usual PA view. Oblique films will sometimes show an otherwise invisible shadow behind the heart or the domes of the diaphragm. Use of the Potter-Bucky technique may help. Tomographs and arteriographs sometimes are necessary to help clarify a lesion. Bronchograms are useful usually only when bronchiectasis is in question. If this is the case there are usually chronic symptoms. Unless this disease is seriously suspected, it is best to avoid bronchography. It adds little to the array of evidence and only obscures the chest film with opaque oil droplets.

Another diagnostic aid is the bronchoscope. If it shows a lesion which may be directly biopsied, a definite diagnosis may be made. If not, sometimes the material aspirated through the instrument may give a clue. This material is examined in exactly the same manner as sputum. Our own experience has been better with the bronchial aspirate than with the sputum in the case of malignant cells. Keep this well in mind: *a negative bronchoscopic examination does not rule out a cancer or any other lesion.*

Occasionally you will see pleural fluid accompanying a lung lesion. In some of these instances all will be negative up to the point of the fluid. If some of this is aspirated and carefully studied, a clue to the diagnosis may be found. As in the case of the sputum, the fluid should be *completely* examined. Fig. 12 shows a smear of the sediment of

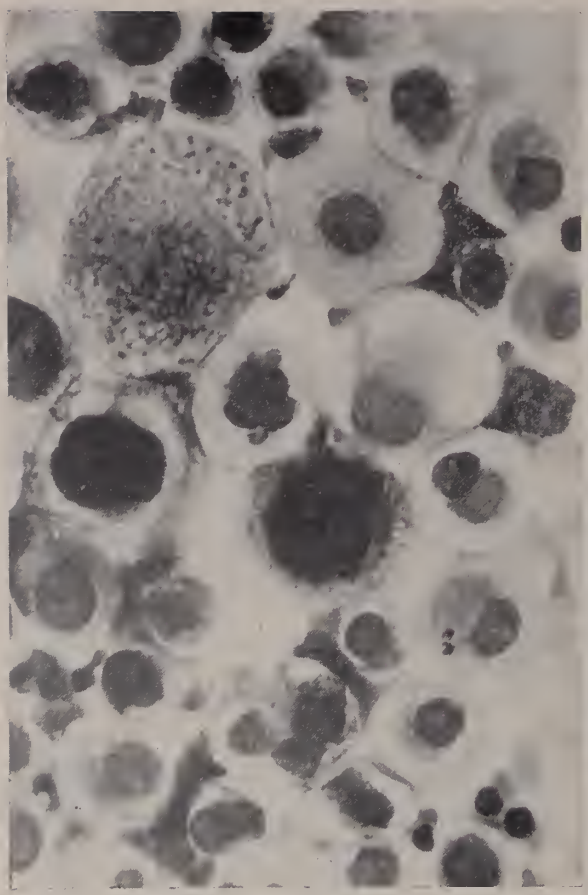

Figure 12

a fluid from a middle-aged man in whom all other studies were negative. It shows myriads of malignant cells, later proven to be from a bronchogenic carcinoma.

Sometimes an enlarged lymph node can be found in the cervical or axillary group. If all else fails to help, an aspiration or biopsy of this may be valuable. Once again the examination should be complete. If biopsy is done, part of the fresh node should be sent for bacteriological study before the remainder is popped into formaldehyde. By this method a patient with a diffuse obscure type of pulmonary disease was found to have an undifferentiated type of malignant growth and another, sarcoid granuloma.

Not infrequently, you will find that you must tread water, let time pass, and observe the course of events. If it is an acute condition with fever and features suggesting a pneumonia, a few days of treatment with this or that drug and complete clearing of the lesion will settle the matter. Be sure, however, *that the lesion has completely cleared.* In the case of pneumonia the final film is more important than the initial film. In Fig. 13, for instance, you see the film of

Figure 13

a man who entered the hospital with a typical picture of acute pneumonia. He promptly became well under treatment. Yet even so a repeat film taken when he seemed quite recovered showed this residual lesion in the right lung. It represents atelectasis. It is due to the plugging of a bronchus by a bronchogenic carcinoma. The apparent acute pneumonia was caused by infection within the atelectatic portion of the lung. This infection cleared concomitant with the use of antibiotics, leaving the atelectatic lesion. Prompt thorough study was negative. The chest was then opened and the true nature of the disease found.

At this point I should like to interject a remark about pulmonary tuberculosis. Its treatment is now almost completely socialized, and the average practitioner sees the patient only during the diagnostic phase. Nevertheless, occasionally you may be re-

sponsible for following a TB patient, who has presumably a "cured" inactive lesion. Do not forget to see that such a patient has a film at least every six months, regardless of how many years he may have been inactive. In Fig. 14 you can see the film of

Figure 14

a middle-aged woman, who had had no change in her condition for seven years. In Fig. 15 you see a film taken as a routine six months later. It shows extension of her disease and the development of a cavity on the right. She disclaimed any warning symptom.

Now, finally, let us suppose we have a patient with a lesion, symptomatic or asymptomatic. The diagnosis is not immediately clear. We simply go through this diagnostic chain of events, link by link. Somewhere along the way the diagnosis may become evident. If so, well and good. If not, we finally come to the ultimate point—thoracotomy. One should not wait long to do it. If in four to six weeks no definite diagnosis has been made, thoracotomy must—with rare exceptions—be done. You can consider individual factors such as age, sex, tuberculin reaction, lack of change in size,

Figure 15

and so forth, yet in the last analysis you are leaving the matter to chance if you do not do a thoracotomy. If you are lucky enough to have a film taken five years previously, and there is no change in the interim, you are reasonably sure there is no cancer present. Yet some neoplastic lesions may change only very little in size over the course of many months. Observe in Fig. 16 the film of a 26 year old woman taken as a routine. She had never had a previous chest film. Complete study was negative. A skin tuberculin test was negative. Films at reasonable intervals showed no change when compared each latest with the previous one. Within six months her skin tuberculin test became positive. No symptoms developed. She was followed for *two and one-half years* in this fashion. Finally, the latest film was compared with the first film and definite increase in size was seen—see Figs. 17, 18, 19, 20. Again complete study was negative. Thoracotomy was done and a localized (as far as could be determined) bronchogenic carcinoma was found. Lobectomy was done and she has since remained well—a period of two years. In Fig. 21, you see the film

Figure 16

Figure 18

Figure 17

Figure 19

Figure 20

Figure 21

of a 58 year old man taken as a routine and showing a lesion in the left lung. All studies were negative except a skin tuberculin test. It was decided to watch him for a while. The next film was taken seven months later and you can see in Fig. 22 what happened.

Figure 22

Next is the film of a 42 year old chain-smoking male who had a routine annual film 6 months previously. It was decided to watch him for six months. Then a repeat film was exactly the same, Fig. 23. Complete study at this time, including gastrointestinal and renal x-ray examination, was negative, except for a positive skin tuberculin test. Six months later his film looked like this, Fig. 24. The lesión has become larger. Three months later, one year following the discovery of his lesion, he was dead of extensive organic and skeletal metastases from the bronchogenic carcinoma. The final illustrations are of the chest of another 42 year old chain-smoking male who showed a small lesion in his right upper lung on routine semiannual examination, Fig. 25. Many previous films had been negative. Complete study was negative, except for a positive skin tuberculin test. Monthly films were taken and the comparison of each latest film with the previous

Figure 23

Figure 25

film showed little change from film to film. However, after two and a half years, the latest film compared with his first film showed definite increase in size and density, (Fig. 26-29). Thoracotomy was immediate-

Figure 24

Figure 26

Figure 27

Figure 28

ly done and a localized bronchogenic carcinoma found. He no longer has a right lung, but is carrying on his usual work, now six months later.

Figure 29

SUMMARY

Now let us skeletonize the moral of the story. Find the lesion. Follow it. Try to determine by logical study if it is infective. If so, is it acute, chronic, active, or inactive. Is it neoplastic and, if so, is it malignant or benign, primary or secondary, localized or disseminated? Then act accordingly. If by complete careful study you cannot definitely determine the nature of the trouble, then don't hesitate, don't dodge the question, don't mumble and turn your eyes away, don't put the burden of decision on the patient just to relieve your own mind. Don't worry about removing benign lesions. Do face the issue squarely. You know what must be done. Do it—thoracotomy. Only in this way will you ever remove the lung crab before its tentacles reach too far.

Here is the summary in three lines:

1. Routine chest films.
2. Follow all abnormalities.
3. In case of doubt do thoracotomy early.

I will conclude with this: If you remember two words that have been said, the effort of this presentation will have been more than amply justified. These two word are: EARLY THORACOTOMY.

LABORATORY DIAGNOSIS OF FUNGUS DISEASES*

DAVID T. SMITH, M. D.†
DURHAM, NORTH CAROLINA

An approximately accurate clinical diagnosis can be made by inspection of the lesions produced by fungi which are limited in their invasiveness to the skin, hair, and nails. The diagnosis can be suspected in patients having rhinosporidiosis, chromoblastomycosis, maduromycosis, cervicofacial actinomycosis and the dermal forms of sporotrichosis, coccidioidomycosis, North American and South American blastomycosis.

Infections of the lungs and other internal organs produce symptoms and signs which are so pleomorphic that it is rarely possible to suggest that a particular fungus is the most likely etiologic agent. In most instances the possibility of a fungus infection is not considered until the more common diseases such as syphilis, tuberculosis, neoplasm, and lymphomas have been eliminated by appropriate studies. After a suspicion of a fungus infection has been aroused the diagnosis must be established in the laboratory.

The laboratory procedures of primary importance in the diagnosis of fungus infections are (1) direct examination of pus, sputum and other secretions or exudates, (2) biopsies, (3) cultures, (4) skin tests and (5) serologic tests.

DIRECT EXAMINATIONS FOR FUNGI

The most rapid and economical method of diagnosis is the detection of the specific fungus by direct examination. This method is employed routinely in the study of the dermatological lesions of the skin, hair, and nails. The presence or absence of a fungus can be established in most instances but sometimes the particular genus or species involved must await the growth in cultures.

The detection of budding yeast cells, accompanied by characteristic hypha in bits of white membrane from the mouth or throat establishes the diagnosis of thrush. The presence of sulfur granules, composed of thin branching gram positive filaments, in the pus from a draining sinus confirms the clinical diagnosis of actinomycosis. The presence of partially acid fast rods, of the size and shape of tubercle bacilli but with side branches, in smears of sputum, pus and secretions after staining by the Zeihl-Neilson technique certainly suggests the diagnosis of nocardiosis.

Tiny bits of pus expressed from the spreading edge of a lesion in the skin can be mounted in 10 per cent sodium hydroxide and examined directly for the characteristic tissue phase of the organisms causing coccidioidomycosis, chromoblastomycosis and North American and South American blastomycosis.

Cryptococcus neoformans (*Torula histolytica*) from the skin, subcutaneous tissue, sputum, or spinal fluid resembles an ordinary budding yeast cell when examined in fresh mounts. The diagnostic feature of this organism is a very large, almost transparent gelatinous capsule which is easily demonstrated by adding a drop of India ink to the drop of exudate before covering the preparation with a coverslip.

Histoplasma capsulatum is primarily an intracytoplasmic parasite and is not usually recognizable unless stained. Smears should be made on cover glasses from blood, pus, bone marrow, or lymph nodes and stained with the Giemsa or Wright blood stains. The Leishmania-like yeast cells are found in the cytoplasm of infected endothelial cells and in monocytes.

Unstained mounts of secretions from the pseudo-polyps of rhinosporidosis show the characteristic large spherules with several hundred endospores. These spherules are several times as large as the spherules found in coccidioidomycosis. In this instance, the organism cannot be cultivated and the diagnosis must be established by direct smears or by biopsy.

Sporotrichosis affords an interesting contrast to rhinosporidosis. Direct examination is a futile procedure for the detection

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*Presented at the Seventy-third Annual Meeting of the Louisiana State Medical Society, May 9, 1953, in New Orleans.

†Department of Bacteriology, Duke University School of Medicine, Durham, North Carolina.

of *Sporotrichum schenckii* since this organism is almost never seen by direct examination either in fresh mounts or in biopsy sections but fortunately grows readily when planted on appropriate media.

Although the direct examination is the most rapid and economical method available for diagnosis a degree of skill and experience comparable to that of a parasitologist is required to obtain reliable results. There are many artefacts in pus, tissue extracts, and sputum which may be mistaken for fungi. The most confusing artefacts are the so-called myelin granules of the sputum which have well defined cell walls and vary greatly in size so that one finds not only pseudo yeast and blast cells but psuedo budding as well. When typical fungus organisms are present in abundance, and this happens in pus from lesions and sometimes in the sputum, the diagnosis by direct examination is rapid and conclusive. In general, however, direct examination is not as reliable as cultures. Many specimens negative for fungi by direct examination will yield a heavy growth when planted on suitable media.

BIOPSIES FOR DIAGNOSIS OF FUNGUS DISEASES

The biopsy is a very valuable procedure in the diagnosis of fungus diseases provided the tissue is cultured as well as sectioned. The type of tissue reaction alone does not permit a definite diagnosis but when typical organisms are present the diagnosis is rapid and quite as reliable as by culture. The new periodic acid staining technique of McManus is definitely superior to staining by the hematoxylin-eosin or Giemsa's method. Occasionally, organisms are found in tissues by the McManus method when cultures from the same tissue fails to yield a growth, but more often the reverse is true where the cultures are positive and the sections negative. This is almost always true of tissues from patients with sporotrichosis as noted above.

CULTURES FOR DIAGNOSIS OF FUNGUS DISEASES

Cultures are slower than direct examination and biopsy methods but in general are more reliable and require less diagnostic skill on the part of the laboratory staff. Even where pure cultures are not readily identified they can be mailed to a diagnostic center for a final opinion or diagnosis. It is not practical to ship original materials of pus, sputum, or tissues to diagnostic centers for culture since the cells degenerate and saprophytic bacteria completely overgrow and eliminate the pathogenic fungi.

Actinomyces bovis is anaerobic and requires a rich medium for growth. Fortunately all the other fungi which cause systemic infections in man are aerobic and will grow on a modified Sabouraud's medium which is a simple peptone agar of *p*H 5 to 6 which contains 1 per cent dextrose. The rate of growth varies with the type of fungus. Monilia, Aspergillus, Penicillium, Mucor and Geotrichum grow rapidly with the production of large colonies in four to five days. Isolated colonies should be picked for subculture but the original tubes should be kept for at least thirty days. *Cryptococcus neoformans* and *Sporotrichum schenckii* may appear after ten to fourteen days, and *Histoplasma capsulatum, Coccidioides immitis* and *Blastomyces dermatitidis* after twenty days. It is most important that the tubes showing an early growth of Monilia are not discarded. We have found Monilia as a secondary invader in cases of blastomycosis, cryptococcosis, histoplasmosis and coccidioidomycosis. The saprophytic form of *Histoplasma capsulatum, Coccidioides immitis* and *Blastomyces dermatitidis* give a growth which resembles a tuft of white cotton. Before the development of characteristic spores these fungi cannot be distinguished from each other or from certain nonpathogenic fungi which may appear on the media.

The yeastlike tissue phase of *Blastomyces dermatitidis* grows readily in seven to ten days when inoculated on blood agar and incubated at 37°C.; and the tissue phase of *Sporotrichum schenckii* grows well on the cystine medium designed for the cultivation of *Past. tularensis.* Nocardia grow equally well on dextrose agar, blood agar, or the special media used for growing *Myco. tuberculosis*, but unlike tubercle bacilli they are destroyed by the various types of concentra-

tion procedures commonly used to eliminate contaminants from tuberculous material. The tissue phase of *Histoplasma capsulatum* may grow on blood agar or in special fluid media when incubated at 37°C. Sometimes on these media the growth starts at the tissue phase and changes over to the saprophytic moldlike phase even when growing at 37°C. The spherule endospore tissue phase of *Coccidioides immitis* has been grown occasionally on artificial media but most stains grow only in the saprophytic form even on rich media at 37°C. However, an abundant growth of the spherule-endospore form can be obtained by inoculating the material into the yolk sac of embryonated eggs.

Various modifications of the basic media have been advocated with the object of making the media more selective for fungi. In Littman's oxgall modification, gentian violet is added to suppress bacterial growth. This modification is definitely superior to the usual Sabouraud's medium for the isolation of the dermatophytes from skin, hair, and nails and for the isolation of fungi from stools. It has definite limitations however, since the gentian violet inhibits the the growth of *A. bovis, Nocardia asteroides, Candida albicans,* and partially inhibits the growth of *Histoplasma capsulatum.* The addition of 100 units of penicillin and 100 micrograms of streptomycin to blood agar medium efficiently eliminates bacteria without affecting the yeastlike and moldlike fungi. But the antibiotics prevent the growth of *Actinomyces bovis* and *Nocardia asteroides* and related species of Nocardia.

SKIN TESTS IN DIAGNOSIS OF FUNGUS DISEASES

The diagnosis of an active fungus infection cannot be established by means of skin tests, but under certain conditions, a negative test may be said to eliminate the possibility of the fungus disease in the same manner as a negative tuberculin test may be used to eliminate the possibility of tuberculosis.

Histoplasmin, coccidioidin, blastomycin, and tuberculin skin tests should be used in the study of patients suspected of having mycotic infection. These tests are often useful but also may be misleading. They should be administered, and interpreted in a manner analogous to the tuberculin test. Certain points should be emphasized. The skin tests are negative in initial stages of the infection and some rapidly advancing cases, especially in histoplasmosis, progress to death without ever developing a positive skin test. Terminal cases of histoplasmosis, coccidioidomycosis, and blastomycosis, like terminal cases of tuberculosis, frequently become anergic and give negative skin reactions. A positive skin test, like a tuberculin test, means present or past infection.

There seems to be a small amount of a common antigen in *Coccidioides immitis, Histoplasma capsulatum* and *Blastomyces dermatitidis* and this results in some cross reaction in the skin tests. For this reason histoplasmin, coccidioidin and blastomycin should always be administered simultaneously regardless of which mycosis is suspected. Only those patients with excessive sensitivity to coccidioidin, e.g. positive to 1:10,000 dilution, give cross reaction with histoplasmin or blastomycin. Cross reaction between histoplasmin and blastomycin are much more common, with the major cross being between histoplasmin and blastomycin. In our experience, individuals with marked positive skin tests to histoplasmin usually give reactions to blastomycin or standard Blastomyces vaccine which are from 25 to 50 per cent as large as the specific reaction to histoplasmin. Such an individual may give a larger reaction to blastomycin than some patients with proven blastomycosis. Patients with large reactions to blastomycin may give smaller reactions to histoplasmin. The specific test is always larger when the three antigens are given simultaneously and no difficulty is encountered in interpretation.

SEROLOGIC TESTS IN DIAGNOSIS OF FUNGUS DISEASES

Precipitin tests are useful in detecting the presence of early and mild infections with *Coccidioides immitis* and *Histoplasma capsulatum.* In progressive disease the precipitin titers decline and finally disappear although the complement-fixation test may be

steadily rising. There is no precipitin test for North American or South American blastomycosis.

The complement-fixation test for blastomycosis was introduced by Martin in 1933. The antigen was prepared from the pulverized bodies of the tissue phase of *Blastomyces dermatitidis*. C. E. Smith of California used coccidioidin for the antigen and perfected a complement-fixation test for coccidioidomycosis. The antigen used in the complement-fixation test for histoplasmosis may be histoplasmin or the yeast phase of the organism.

Complement fixing antibodies are not stimulated by subclinical infections or even mild clinical infections or, if present, are not in amounts sufficiently high to be detected by the methods now in use. Apparently a rather marked stimulation of the tissues is necessary to induce demonstrable amounts of complement fixing antibodies. A positive complement-fixation test should be interpreted as evidence of active infection and unlike the skin test the titer continues to rise in terminal cases. Conversely the titer declines as the patient improves and disappears after recovery.

There is little, if any, cross complement fixation between the sera of patients with coccidioidomycosis and the histoplasma and blastomyces antigens. There is, however, a marked cross reaction between the sera of patients with active histoplasmosis and the blastomyces antigen. The cross reactions in the reverse direction are minimal. A patient with active histoplasmosis may give a higher titer of fixation with a blastomyces antigen than a proven case of blastomycosis may give with the same antigen. For these reasons sera should be run in parallel against both histoplasma and blastomyces antigen. When this is done, difficulties are rarely encountered in interpretation, although there are some recent reports in which patients with blastomycosis have given higher titers with the histoplasma antigen than with the bastomycin antigen and vice versa.

SUMMARY

The laboratory diagnosis of fungus diseases is not really difficult. The multiplicity of cellular and colony forms which at first seem to make mycology more complicated than bacteriology in the end make it simpler when the laboratory worker has become familiar with these characteristic structures.

SURGICAL TREATMENT OF PULMONARY DISEASES

L. J. O'NEIL, M. D.
V. KROLL, M. D.
A. CERNIGLIA, M. D.
NEW ORLEANS

Pulmonary diseases subjected to surgical measures were reviewed to determine current trends. The cases selected were treated on the Independent Surgical Unit of Charity Hospital for a five year period ending January 1953.

TUBERCULOSIS

Thoracoplasty provides safe and effective collapse therapy of the affected lung. It was employed in patients with minimal lesions and positive secretions who did not respond to bed rest, antimicrobial therapy, pneumoperitoneum, and other measures. Contraindications to thoracoplasty are: exudative disease, tension cavities peripheral cavities and lower lobe disease. Seven or 8 ribs are removed in the procedure which is divided into three stages. The first 3 ribs with their transverse processes are removed at the first operation and the remaining ribs are excised in two stages at intervals of two weeks each. Complications of the operation are: contralateral spread, empyema and wound infection.

Lobectomy removes the tuberculous focus which is spilling tubercle bacilli. Cases of thoracoplasty failure, bronchostenosis, tuberculoma, tuberculous bronchiectasis, and tension cavities are treated by lobectomy. If the condition of the patient permits, thoracoplasty is done at the time of lobectomy in an effort to prevent overdistention of the opposite lung. The second to the fifth ribs inclusive are removed. Four lobectomies with concomitant thoracoplasty

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and 1 without thoracoplasty were done with satisfactory results in all cases.

Pneumonectomy is a last resort procedure reserved for cases of chronic bronchial disease, destroyed lung, collapse failure, and diagnostic problems. Thoracoplasty is combined with pneumonectomy also and is done in one stage at a later date with the removal of the second to the sixth ribs. Of 5 patients receiving this combined procedure contralateral spread was responsible for the death of 3 within six months after surgery. It is of interest that 1 of the patients had received treatment for fourteen months because of positive sputum and positive gastric washings for acid fast bacilli, but the lesion proved to be an anaplastic carcinoma instead of an extensive tuberculoma.

CARCINOMA

Pneumonectomy is the only curative measure for bronchogenic carcinoma. To include all avenues of spread and to increase the possibility of cure, wide removal of the mediastinal nodes is done when feasible. Eight such exploratory thoractomies were done on supposedly early lesions only to encounter inoperable malignancies in 5. If pulmonary function studies indicate a low reserve and pneumonectomy is considered too formidable, lobectomy may be employed as a measure of palliation. Two of the lungs removed for malignant disease revealed coexistent tuberculosis at the time of pathological examination.

BRONCHIECTASIS AND LUNG ABSCESS

Removal of he diseased portion of the lung in the above is effected by lobectomy. In bronchiectasis, bilateral lower lobectomy is necessary in some instances. Segmental resection, the most recent technical advance in pulmonary resection, is the removal of bronchovascular subdivisions of the lobe itself. It is especially useful in bilateral bronchiectasis when it is imperative to preserve as much normal lung tissue as possible.

CONCLUSIONS

Current surgical procedures employed in the treatment of pulmonary disease are listed.

STRANGULATION OBSTRUCTION; RECENT EXPERIMENTAL WORK*

ISIDORE COHN, JR., M. D., M. SC. (MED.)†
NEW ORLEANS

The mortality in strangulation obstruction remains alarmingly high. In two recent studies of strangulation obstruction in New Orleans, the mortality was 30 per cent[1] and 46 per cent.[19] In a Charity Hospital series, the mortality was 30.6 per cent for cases with strangulation versus 6.7 per cent for simple obstruction.[1] In that paper the difficulty in differentiating simple and strangulated obstruction was pointed out, showing the need for further knowledge about strangulation obstruction. Recent developments in the control of intestinal bacteria, in the use of blood, plasma, and electrolytes—particularly potassium[29]—and in the understanding of absorption of toxic agents, warrant re-evaluation of the status of experimental strangulation obstruction.

It was with these thoughts in mind that the author engaged in the study of experimental strangulation obstruction. Some recent developments can now be summed up.

EXPERIMENTAL STUDIES

Our earliest work[22] was a base-line study of experimental strangulation obstruction, since there were no well controlled studies with the extensive use of blood, plasma and electrolytes. A standard method for the study of strangulation obstruction in dogs was developed, utilizing an obstructed bowel with ligation of all veins to a 30 cm. segment. Blood, peritoneal fluid, and bowel contents were subjected to serial electrolyte, bacteriologic, and spectrophotometric studies. Survival ranged from twenty-eight and a quarter to forty-eight hours, with an average of thirty-six hours. This was an improvement over previous survivals of four to twenty-nine hours[10, 11, 13, 18, 21, 31]. Clinically, the animals seemed to be in comparatively good condition until a few hours

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†Louisiana State University School of Medicine, Department of Surgery.

before death, when they suddenly became much sicker and began vomiting copiously. The terminal phase was characterized by convulsive movements of the extremities and gasping respirations. Temperature elevations were not correlated with death. At autopsy the outstanding findings were: The strangulated segment was dark reddish black, elongated, dilated, thin, friable, degenerated, sharply demarcated from adjacent normal tissue, but not perforated. There was no evidence of peritonitis and there were no adhesions.

Many changes in clinical condition, nitrogen chemistry, peritoneal fluid character and spectrophotometric observations could be closely correlated. In the early stages peritoneal fluid was light pink, odorless, coagulated easily, and contained normal red cells. Later on it became foul-smelling, blackish, no longer coagulated, and contained only hemolysed cells. Much earlier in each experiment the bowel lumen contents resembled this late peritoneal fluid. Spectrophotometrically the early pink fluid contained only oxyhemoglobin, but the late "dark" fluid contained some new pigment which was not definitely identified then (nor has its identity been completely discovered even yet). This spectrophometric observation aided in tracing the sequence of events. The new pigment was observed relatively early in the bowel contents. It appeared late in the peritoneal fluid and subsequently in the blood stream. This showed absorption of any noxious substance was from the bowel lumen to the peritoneal fluid and then into the circulation.

Toxicity of the peritoneal fluid was investigated by intraperitoneal or intravenous injection in normal dogs.[23] In no case was the amount or the speed of injection sufficient to cause circulatory embarrassment. The early, pink fluid was uniformly without effect. The late, dark fluid, on the other hand, was lethal in a matter of several hours.

CLINICAL CONFIRMATION

Clinical confirmation of these experimental results seemed desirable. Accordingly, a study was undertaken of the correlation of the clinical picture with the bacteriology and spectrophotometry of the peritoneal fluid in clinical strangulation obstruction.[3] Over a two year period 18 cases were studied. Chart No. 1, summarizing

CLINICAL COURSE CORRELATED WITH PERITONEAL FLUID STUDIES

	No strangulation No resection	Strangulation No resection	Strangulation Resection - fatal*
Negative bacteriology Negative spectrophotometry	2,3,4,5,6,7, 8,14,15,17	9,10	16,18
Neg bact Pos spectro	——	——	——
Pos bact Neg spectro	11	1	12
Pos bact Pos spectro	——	——	13*

CHART I

Correlation of peritoneal fluid studies with clinical course of 18 cases of suspected strangulation obstruction.

this work, correlates the data as compactly as possible. Conclusions of that study were: (1) No significant spectrophotometric changes were observed in simple obstruction, experimentally or clinically. (2) Peritoneal fluid was bacteriologically negative in simple obstruction. (3) Bacteriologic studies in strangulation obstruction not requiring resection may be negative. (4) Positive bacteriologic results occurred most commonly in peritoneal fluid from true strangulation obstruction. (5) Cases with positive bacteriologic findings in peritoneal fluid were associated with more postoperative complications than cases with negative bacteriologic findings. (6) Spectrophotometric findings similar to those observed experimentally were found in a single clinical case, demonstrating that this pigment can occur in the human. (7) The infrequent occurrence of positive spectrophotometric changes in clinical strangulation obstruction indicated that this did not correlate as well with the other factors as did bacteriologic study of peritoneal fluid.

CL. WELCHII

Following the above observations our attention was focused on *Cl. welchii* for these reasons: (1) *Cl. welchii, B. coli,* and nonhemolytic strep. were the only organisms uniformly present in the peritoneal fluid. (2) Antibiotic protection had not been

used, though Blain and Kennedy had previously prolonged survival with penicillin.[2] (3) The failure to coagulate of later peritoneal fluid might have been correlated with fibrinolysins of *Cl. welchii.* (4) Hemolysis of red cells in the late fluid suggested hemolysins and lecithinases of clostridia. (5) Histologic sections of the strangulated bowel suggested gas gangrene. (6) The absence of leukocytic response in the bowel wall in spite of obvious bacterial invasion suggested clostridial leukocidins.

Other workers have also noted correlations with Welch organisms. Tanturi, Anderson, and Canepa demonstrated lecithinase and hyaluronidase in the intestinal contents of dogs with strangulation obstruction.[30] These substances were also found in peritoneal fluid of animals with strangulation obstruction and in thoracic duct lymph.[15]

In a study of the effects of intravenous injection of *Cl. welchii* lecithinase[12] Laufman's group noted: Shock-like state, hemolysis of red cells, and death in a few hours. Action of the toxin was observed on the cellular elements of blood, the most dramatic action being the early rapid destruction of the platelets, and later of red and white cells.

To further evaluate *Cl. Welchii* in strangulation obstruction it was desirable to avoid the complications of obstruction-vomiting, fluid and electrolyte loss, bleeding in the gastrointestinal tract, and creation of an ideal culture media. To achieve this, we utilized a completely isolated, closed loop of bowel, placed in the peritoneum of a normal dog.[8] This was demonstrated to have many effects of strangulation obstruction without its undesirable complications. To rule out autolysis of sterile tissue as a cause of symptoms in strangulation obstruction, similar loops of bowel were autoclaved before being placed in the peritoneum. Loops adequately autoclaved were without effect. Sterile, autoclaved bowel plus a sublethal dose of *Cl. welchii* was fatal. To obviate the objection that autoclaving changes the nature of the tissue completely by altering protein structure, destroying enzymes, etc., fresh tissue was used in its place. Fresh sterile bowel was obtained by allowing both ends of an isolated well vascularized bowel loop to remain open in the peritoneal cavity since exposure of bowel mucosa to peritoneal secretions for several weeks sterilizes it.[8, 14] The bowel was severed from its connections, and placed in the peritoneal cavity with a sublethal dose of *Cl. welchii,* again giving fatal results. *Cl. welchii* in the peritoneal fluid was associated with a rise and then a fall in white cell counts of blood and peritoneal fluid. The fall was ascribed to leukocidins produced by Welch organisms. It was concluded that neither sterile tissue nor *Cl. welchii* placed intraperitoneally caused death, but when combined a lethal result occurred, due to exotoxins of *Cl. welchii* produced in dead or dying tissue. This was similar to the effects noted in strangulation obstruction.

PANCREATIC AND BILIARY SECRETIONS

Pancreatic and biliary secretions have been considered essential for toxicity in strangulation obstruction by some observers.[24] While not denying that bile, activated pancreatic juice, or duodenal secretions would increase toxicity of intraluminal contents of a strangulated loop, I have not been convinced that this was essential. Experimental verification of my viewpoint was sought by the production of strangulation obstruction in the absence of all duodenal, biliary, and pancreatic secretions.[7] This was done as follows: A modified Mann-Williamson operation diverted all duodenal contents to the low ileum. After several weeks, during which the animal returned to a relatively normal state, and all duodenal secretions passed below the jejuno-ileostomy, a second operation was performed. At this time, obstruction and strangulation were created proximal to the jejuno-ileostomy. The sequence of events was the same as for the original series. A prolonged survival was attributed to the absence of biliary, pancreatic and duodenal secretions to aid in the destruction of the strangulated loop. However, the failure to survive was the most important feature, showing that neither pancreatic, biliary,

nor duodenal secretions were essential for a lethal result.

ANTIBIOTICS

If bacteria are of paramount importance it should be possible to prolong life with antibiotics. Blain and Kennedy[2] obtained prolonged survival with postoperative penicillin. However, their dogs also died, and many workers believed that this was sufficient proof that bacteria were not the ultimate answer. Poth and McClure[25] used preoperative sulfathaladine to prolong survival in dogs with vascular damage to a segment of jejunum without obstruction. Uniform survival was not obtained with this technique. Antibiotics soon replaced sulfas, and much of the work on sterilization of the gastrointestinal tract has been reviewed by Riddell.[27] Dearing and Heilman[9] concluded that aureomycin was the best available agent for preoperative intestinal antisepsis.

In a study of strangulation obstruction using aureomycin, Morton, Furth, Hinshaw, and Schilling[20] stated that postoperative aureomycin "appears to have certain beneficial effects in the lethal process. Animals treated preoperatively or during both preoperative and postoperative periods, however, fare little better than untreated controls." Their animals received no postoperative treatment except antibiotics, and we believed this was in no way comparable to our own work in which the animals were protected against fluid, electrolyte, and blood loss.

Using the techniques of our original study, a new series was undertaken with preoperative bowel sterilization.[5] Postoperatively, the dogs received parenteral penicillin and intravenous aureomycin 500 mg. twice daily. Average survival was increased to seventy-seven hours, twice the survival of our series without antibiotics. Probably as important as the prolonged survival were histologic changes in the strangulated bowel. There was almost complete destruction of bowel wall in the nonantibiotic series. By contrast there was a relatively normal appearance in the antibiotic series. The reduction of intestinal flora prior to strangulation had effectively prevented bacterial proliferation after strangulation even in the presence of severely reduced blood supply, hemorrhage, and relative anoxia. It was still not clear why further survival was not obtained. Later, Lepper et al [16, 17] and others[28] showed that large doses of intravenous aureomycin were toxic. Review of our data disclosed our animals had received aureomycin in the toxic range.[4, 6]

Obviously this was a paradox. The drug had prolonged the lives of our experimental animals and then had killed them. It occurred to us that maximum effectiveness of the drug without its toxic side effects might be obtained if the drug were introduced directly into the strangulated segment. Such a study is currently underway, and the early results suggest that the work of Rabinovici and Fine[26] can be duplicated in strangulation obstruction. The implications of this to the future therapy of strangulation obstruction remain to be evaluated.

SUMMARY

Proper attention to fluid, electrolyte, and blood requirements has significantly prolonged survival in dogs with experimental strangulation obstruction. Shortly before death sudden changes were noted in the clinical condition of the animal; character of peritoneal fluid; and nitrogen chemistry of blood, peritoneal fluid and bowel contents. A correlation was suggested between these changes and changes in the spectrophotometric curves of peritoneal fluid. Spectrophotometric changes served to demonstrate that "toxins" were absorbed from the strangulated loop by passage into the peritoneal fluid and then into the blood stream. Toxicity of the late peritoneal fluid was established by injection into normal dogs with lethal results. Clinical continuation of these studies indicated there was a better correlation between the clinical course of patients with strangulation obstruction and the bacteriology of the peritoneal fluid than with spectrophotometric observations of this fluid. While neither sterile tissue nor cultures of *Cl. welchii* had any effect when placed intraperitoneally in normal dogs, the combination produced

fatal results similar to those noted in strangulation obstruction. Fatality in strangulation obstruction was attributed to toxins of *Cl. welchii.* The course of experimental strangulation obstruction was not altered by the removal of activated pancreatic juice, duodenal or biliary secretions. Preoperative intestinal antisepsis combined with postoperative antibacterial agents was shown to significantly prolong life over all previous techniques. The course of future investigation has been suggested.

REFERENCES

1. Becker, W. F.: Acute adhesive ileus. A study of 412 cases with particular reference to the abuse of tube decompression in treatment, Surg., Gynec., & Obst. 95:472, 1952.

2. Blain, A., III, and Kennedy, J. D.: The effect of penicillin in experimental intestinal obstruction. Studies on strangulated low ileal obstruction, Bull. Johns Hopkins Hosp. 79:1, 1946.

3. Cohn, I., Jr.: The Correlation of the Bacteriology and Spectrophotometry of the Peritoneal Fluid with the Clinical Picture in Strangulation Obstruction. (Thesis submitted to faculty of Graduate School of Medicine of the University of Pennsylvania for the Degree of Master of Medical Science, 1952.)

4. Cohn, I., Jr.: Antibacterial agents in experimental strangulation obstruction, Am. Surgeon 19:294, 1953.

5. Cohn, I., Jr., Gelb, A., and Hawthorne, H. R.: Strangulation Obstruction—Effect of Pre- and Postoperative Antibacterial Agents. A Preliminary Report. Surgical Forum, 1951, p. 123, Philadelphia, W. B. Saunders, 1952.

6. Cohn, I., Jr., Gelb, A., and Hawthorne, H. R.: Strangulation Obstruction—Effect of Pre- and Postoperative Antibacterial Agents. In preparation.

7. Cohn, I., Jr., Gelb, A., Hawthorne, H. R., and Drabkin, D. L.: Strangulation Obstruction: A Preliminary Report on the Effect of Diverting Duodenal Contents. Surgical Forum, 1952, p. 105. Philadelphia, W. B. Saunders, 1953.

8. Cohn, I., Jr. and Hawthorne, H. R.: The role of *Clostridium welchii* in strangulation obstruction. Ann. Surg., 134:999, 1951.

9. Dearing, W. H. and Heilman, F. R.: The effect of antibacterial agents on the intestinal flora of patients: The use of aureomycin, chloromycetin, dihydrostreptomycin, sulfasuxidine and sulfathaladine, Gastroenterology 16:12, 1950.

10. Evans, E. I.: The mechanism of shock in intestinal strangulation. An experimental study, Ann. Surg., 117:28, 1943.

11. Foster, W. C. and Hausler, R. W.: Studies on acute intestinal obstruction. II. Acute strangulation, Arch. Int. Med. 34:697, 1924.

12. Furr, W. E., Jr., Bourdeau, R. V., Roach, H. D., and Laufman, H.: In vivo effects of *Clostridium welchii* lecithinase, Surg., Gynec., & Obst. 95:465, 1952.

13. Holt, R. L.: The pathology of acute strangulation of the intestine, Brit. J. Surg. 21:582, 1934.

14. Laufman, H., et al: Observations in strangulation obstruction. II. The fate of sterile devascularized intestine in the peritoneal cavity, Arch. Surg. 59:550, 1949.

15. Laufman, H., Tanturi, C. A., and Furr, W. E., Jr.: Attempts at detection of lecithinase in the blood and lymph following intestinal strangulation obstruction, Surg., Gynec., & Obst. 93:292, 1951.

16. Lepper, M. H., et al: Effect of large doses of aureomycin on human liver, Arch. Int. Med. 88:271, 1951.

17. Lepper, M. H., et al: Effect of large doses of aureomycin, terramycin, and chloramphenicol on livers of mice and dogs, Arch. Int. Med. 88:284, 1951.

18. Maycock, W. d'A.: Intestinal strangulation. The depressor properties of the peritoneal transudate in intestinal and colic obstruction, Surg. 28:90, 1950.

19. Michel, M., Jr., Knapp, L., and Davidson, A.: Acute intestinal obstruction. Comparative studies of small intestinal and colic obstruction, Surg. 28:90, 1950.

20. Morton, J. H., Furth, F. W., Hinshaw, J. R., and Schilling, J. A.: The use of aureomycin in experimental intestinal obstruction, Ann. Surg. 134:1007, 1951.

21. Murphy, F. T., and Vincent, B.: An experimental study of the cause of death in acute intestinal obstruction, Boston M. & S. J. 165:684, 1911.

22. Nemir, P., Jr., Hawthorne, H. R., Cohn, I., Jr., and Drabkin, D. L.: The cause of death in strangulation obstruction: An experimental study. I. Clinical course, chemical, bacteriologic and spectrophotometric studies, Ann. Surg. 130:857, 1949.

23. Idem: II. Lethal action of the peritoneal fluid, Ann. Surg. 130:874, 1949.

24. Nemir, P., Jr., Hawthorne, H. R., and Drabkin, D. L.: Further Studies on the Abnormal Pigment Found in Strangulation Obstruction, Surgical Forum, 1952, p. 100, Philadelphia, W. B. Saunders, 1953.

25. Poth, E. J. and McClure, J. N.: Intestinal obstruction. The protective action of sulfasuxidine and sulfathaladine to the ileum following vascular damage, Ann. Surg. 131:159, 1950.

26. Rabinovici, N., and Fine, J.: The effect of aureomycin on the intestine subjected to vascular injury, Ann. Surg. 135:344, 1952.

27. Riddell, M. I.: A review of the literature on preoperative prophylaxis of the bowel with antibacterial agents, Am. J. M. Sc. 223:301, 1952.

28. Rutenberg, A. M., and Pinkes, S.: The hepatotoxicity of intravenous aureomycin, New England J. Med. 247:797, 1952.

29. Schilling, J. A., McCoord, A. B., and Clausen, S. W.: Potassium loss in experimental intestinal obstruction, Surg. Gynec., & Obst. 92:1, 1951.

30. Tanturi, C. A., Anderson, R. E., and Canepa, J. F.: Lecithinase and hyaluronidase in experimental intestinal obstruction. Surg., Gynec., & Obst. 90:171, 1950.

31. Wahren, H.: The intoxication in intestinal strangulation. An experimental study, Acta chir. scandinav. 78:121, 1936.

SURGICAL TREATMENT OF HYPERTENSION*

ALTON OCHSNER, M. D.†
CHARLES C. ABBOTT, M. D.‡
NEW ORLEANS

Hypertension and its sequelae, cardiac failure, renal failure, and cardiovascular accidents, are the principal causes of death. The mortality rate from hypertension and its sequelae is two to three times that of cancer.

Increased tension within the vascular

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†From the Department of Surgery, School of Medicine, Tulane University of Louisiana and the Ochsner Clinic, New Orleans, Louisiana.

‡From the Department of Surgery, School of Medicine, Tulane University, New Orleans, Louisiana.

system may be the result of a number of factors. Generally there is a decrease in the size of the lumen of the vessels, increasing the peripheral resistance and, therefore, pressure is increased. On the other hand, it may temporarily result from an increase in the cardiac output or an increase in blood volume. The last is undoubtedly influenced by sodium content of the plasma, and it is because of this influence that salt free and rice diets, and probably even total adrenalectomy,[1,2] are of value in the treatment of certain cases of hypertension.

TYPES OF HYPERTENSION

Hypertension may be divided into two large groups: primary and secondary. In the primary group are those individuals who are considered as vascular hyper-reactors, with latent hypertension, those with essential hypertension, and with malignant hypertension. Hines[3] designates as hyper-reactors those individuals who have normal blood pressure, but who under certain stimuli have increased blood pressure. He believes the hyper-reactors are more likely to develop hypertension later on. According to Hines a diagnosis of latent hypertension is justified in individuals who previously had some hypertension, but in whom at the time the blood pressure is normal and there is no evidence of hypertensive changes in the retinal vessels. Essential hypertension is a condition in which there is an elevation of blood pressure but in which there is no organic disease to account for it. Malignant hypertension is a hypertension in which there is a progressive increase in hypertension which is little affected by therapy. Malignant hypertension can be also secondary to renal lesions.

The secondary types of hypertension may be divided into several groups: (1) endocrine, (2) renal, (3) vascular, and (4) cerebral.

Of the endocrine lesions, neoplasia or hyperplasia of the suprarenal glands are most important. Tumors of the suprarenals may involve the cortex, as in Cushing's syndrome, or may be of the medullary type, as pheochromocytoma. On the other hand, hypertension may result from hyperplasia of the suprarenals. Lesions of the pituitary especially those affecting the anterior lobe in which there is an increase in basophilic cells can produce hypertension by causing adrenocortical stimulation. Although it is occasionally stated that hypertension is caused by hyperthyroidism, it must be emphasized that this condition is not a true hypertension because only the systolic pressure is elevated. Rarely the intercapillary glomerulosclerosis of the pancreas (Kummelstiel-Wilson syndrome) is a cause of hypertension.

Renal ischemia is a cause of hypertension. Pell and Pedersen[4] were the first to demonstrate that hypertension could be produced by interference with the renal vascular supply. Goldblatt et al[5] demonstrated that decrease in the arterial supply to the kidney produces arterial hypertension. Clinically, renal ischemia can result from thrombosis of the renal artery or vein, constriction of these structures by aberrant vessels, or by aneurysms of the renal artery. Other renal lesions which at times can produce hypertension are glomerular nephritis, atrophic pyelonephritis, polycystic kidney, periarteritis nodosa, and terminal renal disease.

Primary vascular lesions which will produce hypertension are congenital aortic lesions, coarctation, and arteriosclerosis. Aortic coarctation is the most frequent cause of hypertension in infants or young children and must always be considered. Characteristically, the hypertension is limited to the upper part of the body, and the blood pressure in the lower extremities which is normally slightly higher than in the upper extremities is either not obtainable or greatly diminished.

Cerebral lesions which cause an increase in intracranial tension result in hypertension undoubtedly because of cerebral anemia, the response being initiated to increase the blood supply to the brain. Another form of cerebral hypertension is diencephalic hypertension . At the outset it must be emphasized that hypertension is primarily a medical disease and that most patients with hypertension can and should be treated conservatively. There are many cases of hypertension, however, in which

surgical therapy is not only preferable but also the only one by which satisfactory results can be obtained.

SYMPATHECTOMY

Previously many patients with hypertension in whom the increase was due to a sympathico-adrenal overactivity were treated by operative procedures. However, with the introduction of the adrenergic blocking agents, sympathectomy is less frequently indicated. Sympathectomy and subtotal suprarenalectomy, either alone or combined with sympathectomy, have been used in the treatment of essential hypertension with variable results. Recently Thorn et al[1] have used total suprarenalectomy in the treatment of malignant hypertension. Although the blood pressure is reduced by suprarenalectomly, probably due to sodium and chloride loss, correction of suprarenal deficiency is likely to result in a return of the hypertension. Only time will tell whether the results will justify the continued use of this extremely radical procedure. It is our belief that even in malignant hypertension the judicious use of adrenergic blocking agents will probably be as satisfactory as sympathectomy or suprarenalectomy. However, if sympathectomy is chosen as a therapeutic procedure, it is imperative that a sufficient arterial denervation be accomplished to decrease the blood pressure. Because of this we believe that a thoracoabdominal resection of the lower seven dorsal ganglia and the upper two or possibly three lumbar ganglia be done bilaterally. This not only denervates a large portion of the vascular system but also permits exploration of both suprarenals at the time of sympathetic denervation. The combined thoracoabdominal procedure is much more radical than either the supradiaphragmatic or infradiaphragmatic procedures, but at the same time is not as radical as the total sympathectomy advocated by Grimson.[6] We believe a total sympathectomy is too radical a procedure and produces too many undesirable sequelae, such as severe postural hypotension, which is difficult to control. It is impossible to determine beforehand which patients will be benefited permanently by sympathectomy, and that in the individual in whom there is difficulty in maintaining a satisfactory control of the pressure by the use of adrenergic blocking drugs, sympathectomy is justified. However, as mentioned above, most cases of essential hypertension and even many cases of malignant hypertension will respond to the use of adrenergic blocking agents. Before satisfactory blocking drugs were available, we did many sympathectomies for hypertension, however, only after the internists had decided that conservative therapy was not successful. In approximately 25 per cent of these patients we had excellent results, in an additional 25 per cent there has been some decrease in blood pressure, but in approximately 50 per cent there has been no decrease in blood pressure whatsoever following the sympathectomy, although in practically all of them there has been complete relief of the symptoms.

Although the results following sympathectomy for primary hypertension are far from ideal, those following surgical correction of other lesions causing secondary hypertension are much more satisfactory. Suprarenal lesions, either cortical (Cushing's syndrome) or medullary (pheochromocytoma) are satisfactorily treated by either bilateral subtotal suprarenalectomy in the former or extirpation of the neoplasm in the latter. The relatively rare hypertension resulting from suprarenal hyperplasia and hyperfunction is relieved by subtotal suprarenalectomy.

PHEOCHROMOCYTOMA

A patient with a paroxysmal hypertension with marked fluctuation in the pressure should be suspected of having a pheochromocytoma. Because of the availability of the adrenergic blocking agents, pheochromocytomas are relatively easily diagnosed. Frequently, perirenal air insufflation is of value in visualizing the neoplasm, but even though a mass cannot be demonstrated, exploration of the suprarenal areas is justified. A slightly greater number of these tumors are found on the left side and for this reason if there is no evidence of tumor preoperatively, either abdominal exploration or left-sided exploration should be

used initially. Pheochromocytomas are found not only in the region of the suprarenal, but also may be found anywhere along the abdominal aorta down to its bifurcation and even in the thorax. Sprague et al[7] stated that approximately 10 per cent of pheochromocytomas are bilateral, 10 per cent are located extrasuprarenally (along the aorta or in thorax) and 10 per cent are malignant.

Recently, we observed a patient who had a large pheochromocytoma in the pelvis located approximately 4 centimeters distal to the bifurcation of the aorta and densely adhered to the left renal vein and artery. The diagnosis was made definitely preoperatively because of the characteristic decrease in arterial pressure following administration of adrenergic blocking agents. Because palpation on the left side of the abdomen caused an increase in arterial pressure, it was felt that the lesion was on the left side.

R. N., colored male, aged 20, admitted to Charity Hospital on December 10, 1952. Patient well until June 1952, when he had a severe headache accompanied by nausea and vomiting. His physician told him he had high blood pressure and gave him phenobarbital. He worked for one month and had a similar attack. He saw another doctor who gave him a low salt diet and "pills." However, frequent attacks of severe headache, with crampy abdominal pain, nausea and vomiting continued; three attacks in November. Blood pressure rose to 290 systolic; on one occasion was unconscious for five minutes. Upon admission to Charity Hospital a tentative diagnosis of a pheochromocytoma was made. Perirenal air insufflation was unsuccessful and patient did not want further tests and deserted from the hospital on December 24, 1952.

However, in the next three months he had an attack which lasted three days. He developed severe dyspnea on exertion, orthopnea and edema. He was readmitted on March 30, 1953.

Physical examination: Patient well-developed and nourished, 6'4" in height and thin. B. P. 170/110. P. 130. R. 28.

On admission, he had a hypertensive crisis with severe apprehension, pounding in the head and chest, nausea and vomiting, and generalized weakness. Blood pressure increased to 260/140. There were moist rales at both bases extending well up to scapulae. Neck veins became markedly distended. Patient devcloped a gallop rhythm and pulsus alternans.

The patient was digitalized, a phlebotomy was done, morphine was given with little relief. Benzodioxane by slow drip and by intramuscular route had little effect. Regitine was given 50 mg. orally every six hours with remarkable effect. Within an hour blood pressure dropped to normal, cardiac rhythm became normal. However, he had bronchopneumonia.

Laboratory Findings: Urine—Normal color, negative sugar and albumin and acetone. No cells in sediment. Blood Hgb. 70 per cent; RBC 3,510,000; Hct. 38; WBC 8400; Diff. Segs. 38; Bands 5; Eos. 2; Monos. 10; Lymphos 45; Sed. rate 53.

Chest X-ray: Bronchopneumonia left base.

Electrocardiogram: Suggestive of posterior infarction on numerous occasions.

Histamine test: 0.5 mg. i.v.

Blood Pressure. A primary drop and then rise within two minutes of inpection to over 300 mm. systolic. This was considered specific for a pheochromocytoma.

Of all drugs tried—dibenamine, tetra-ethyl ammonium chloride, benzodioxine, and regitine; only regitine caused blood pressure to drop to normal.

Pneumonia cleared and because of more frequent crisis a left suprarenal exploration was performed on April 7, 1953.

The left suprarenal was exposed and found to be somewhat enlarged. Because of this, the superior portion which appeared granular was extirpated. Because there was no alteration in the blood pressure during this manipulation, it was concluded that this was not responsible for the paroxysmal hypertension. The peritoneum was opened, the area of the right kidney and the entire course of the aorta were explored and nothing was found. However, a large mass measuring approximately 6 by 8 cms., intimately adhered to the left common iliac vein and artery, was found in the left pelvis. Manipulation of the tumor caused sudden rise in arterial pressure to 280 mm. Several large vessels connecting the tumor with the left renal vein were visualized and following their division and ligation the pressure dropped to 80/60, after which it was possible to remove the tumor without any further alteration in blood pressure.

Postoperatively, laevophed 24 gtts/min. was given intravenously, every six hours. Blood pressure taken every five minutes, remained 120/80. Postoperatively, patient responded well. He has had no further attacks. Blood pressure has remained 120/80; pulse 80; R 20. Electrocardiogram still shows posterior myocardial infarction.

Patient up on second postoperative day.

Histologic diagnosis of the tumor was pheochromocytoma.

RENAL ISCHEMIA

Cushing's syndrome with its characteristic manifestations of hypertension, moon face, buffalo hump, abdominal striae, obesity, hirsutism due to increased adrenocortical function usually is not difficult to diag-

nose. Suprarenal exploration and subtotal suprarenalectomy are justified.

Many renal lesions are associated with hypertension and because correctable renal ischemia may be responsible for hypertension, every effort should be made to determine whether renal ischemia exists. Although there are many of the opinion that all patients with unilateral kidney disease with hypertension can be satisfactorily treated by nephrectomy, the results in many of these cases have been quite disappointing. Burns[8] is of the opinion that one can determine preoperatively whether the patient might be benefited or not by determining angiographically whether the ischemia is in the renal artery or its major branches or whether it is in the kidney substance, and only in those cases in which the vascular occlusion involves the larger vessels can a satisfactory response be obtained by a surgical attack on the kidney or vessels. When, however, there is interference with the flow of blood through the renal artery or venal renal vein either as a result of thrombosis or constriction of the vessel by an aberrant vessel or some other structure or aneurysm of the artery, one can predict that hypertension will be relieved either by relieving the construction (such as division of an aberrant vessel) or by nephrectomy. It is of importance, however, to determine preoperatively just where the vascular occlusion is, because otherwise an unnecessary procedure might be avoided. An interesting example of hypertension from renal ischemia is the following:

N. R. L., nine-month old baby male, first seen at the Ochsner Clinic on July 28, 1952. For two or three months child had low grade fever, vomiting, failure to gain weight. On admission this child seemed vigorous and healthy, although not plump. He had a height of 26-2/3″ and weight of 16 pounds. Blood pressure was 200/180 in the right arm and the same in the left arm. (The child's blood pressure had never been taken before). Blood pressure in the leg was 210/180.

Examination of the eye grounds: spastic arteries and a macular scar in the right eye. There was no papilledema.

Laboratory studies on admission revealed a hemoglobin of 14.2 gm., red cells 5.2 million, white cells 18,160 with a normal differential. The sedimentation rate was 60. The urine was examined on many occasions and always showed 3 to 4 plus albumin. Specific gravity was usually 1.002 or 1.003. After thirteen hours without any fluids by mouth, the specific gravity was 1.008 with albumin 3 plus. Some specimens showed 1 to 2 red cells and 2 to 4 white cells/hpf, but there was never any real hematuria or pyuria, and no casts were seen. The stools were negative for parasites. Blood urea nitrogen was 19 on one occasion and 15 on another. Serum calcium and phosphorus were normal. Serum chloride was 91 mEq/L., and serum CO_2 was 26 mM/L. The spinal fluid was clear, under normal pressure with protein of 25, and only 2 cells/cu. mm. Serum sodium was 135.8 mEq/L., and potassium 3.59 mEq/L.

X-rays and fluoroscopy of the chest revealed normal heart and lungs, but on the esophogram it appeared that there was an extrinsic lesion compressing the esophagus from the left. Our findings were identical with those found by the patient's local physician. The kidneys, ureters, and bladder were well visualized after intramuscular injection of neo-iopax and appeared normal. Soft tissue shadows of the kidneys were normal in size and position. X-ray of the skull was negative. The child was tested with benzodioxane and the response was normal. Following injection of the drug, the blood pressure rose moderately and did not fall at all. The same test was repeated, using regitine, with the same result. Although these tests seemed to exclude a pheochromocytoma, the evidence of a mediastinal mass suggested that such a tumor might be present in the mediastinum, especially when there was little evidence of other disease that might cause the hypertension. On August 7, 1952, the patient was operated upon and the mediastinum was exposed from the left side. The region where the x-ray had indicated a mass was thoroughly explored; and the esophagus was visualized throughout the middle third of its length. An enlarged lymph node was found and removed. This was found to be hyperplastic. The child made a remarkably rapid and uneventful recovery. In spite of this, the child continued to have a very high blood pressure with dilute urine and albumin. The problem was reviewed by the staff and everyone felt that intracranial and endocrine causes for hypertension had been ruled out. It was concluded that the hypertension was due to kidney disease, probably a chronic nephritis. Because of this, urine cultures were obtained and were sterile. Because the intravenous pyelograms were normal, unilateral disease of the kidneys was felt to be excluded. Examination for 17 ketosteroids in a twelve hour urine specimen was found to be normal. August 15, 1952, the child was discharged from the hospital.

The patient was readmitted to the Foundation Hospital on September 21, 1952, and recheck of his blood pressure was found to be in 195/110. His

urine still contained 4 plus albumin with low specific gravity. Chest x-ray was normal, but the electrocardiogram showed some changes for the worse since the previous one on the first admission had been normal. At this time the T waves were inverted in the first lead. Examination carried out under rectal pentothal anesthesia revealed a somewhat enlarged left kidney. The right kidney could not be palpated. A retrograde arteriogram was made by exposing the right femoral artery and introducing a cannula for the injection of diodrast through a catheter introduced into the aorta. Arteriograms outlined the renal arteries nicely. The left renal artery was normal. However, on the right side there were two renal arteries and both appeared dilated and tortuous, giving the appearance of aneurysms. Because of this finding, the patient was operated upon on September 26, 1952, and the right kidney was removed. On examination it was apparent that the renal vein was thrombosed and the two renal arteries were markedly sclerotic, dilated, tortuous, and showed aneurysmal dilatation. There was definite ischemia of about two thirds of the kidney with a rather distinct borderline between normal and ischemic portions of the kidney. The baby withstood the procedure quite well and had no complications. After the operation he had no polyuria and no increased thirst. The specific gravity rose to 1.018 and the urine was no longer positive for albumin. The optic discs which had been somewhat blurred previously became sharp. However, the retinal arteries remained tortuous. The blood pressure was 160/100 in the arms; however, when taken under rectal pentothal sedation, the blood pressure was 105/60. Discharged on October 6, 1952.

The patient was last seen at the Clinic in January 1953, at which time he was 14½ months old and weighed 26 pounds. He looked perfectly healthy. His blood pressure awake was 90/70 and under rectal pentothal anesthesia. Without anesthesia it was 107/70 in the right arm and 105/70 in the left arm. The eye grounds showed the optic discs to be flat, the vessels only slightly tortuous, but otherwise normal, except for a remnant of the macular scar on the right side. This scar had decreased in size. The blood count and urinalysis were normal. The urine specific gravity was 1.030. The blood urea nitrogen was 22 on one occasion and 14 on another. X-ray of the chest was clear. The size of the heart was a little smaller than preoperatively, measuring 7.8 cm. at this time. X-rays showed absence of the right kidney; however, the left kidney functioned well and was considered normal.

VASCULAR LESIONS

In those patients who have unilateral kidney disease and in which arteriography demonstrates that there is a vascular lesion in the renal artery artery itself or the major components of it, surgical therapy is likewise justified. However, according to Burns, in cases in which the vascular interference is apparently in the distal part, nephrectomy probably accomplishes little. Aberrant structures such as aberrant vessels may constrict the renal vessels and produce ischemia of the renal parenchyma which will cause hypertension. Simple correction of the constriction by division of the aberrant structure before irreparable kidney damage has resulted usually completely relieves the hypertension. Certain cases of hypertension caused by unilateral pyelonephritis can be relieved by nephrectomy The operation should not be done, however, unless the lesion is early and is definitely unilateral, unless the other kidney is normal, and the patient less than 50 years of age.

In the child with hypertension in whom it is found that the hypertension is limited to the upper extremities and is absent in the lower extremities, a diagnosis of coarctation of the aorta is justified. The diagnosis can be confirmed by aortography and the visualization of the constriction or stenosis. Because the life expectancy of an individual with a coarctation is definitely limited (only about 10 per cent of them live beyond 50 years of age) operative correction of coarctation is justified. Most of the adult types of coarctation which consist of a stenosis or short atresia can be cured by excision and primary suture of the aorta; even long atresias can be corrected by resection and replacement with homogenous aortic graft. Patients with coarctation treated by resection and suture or by resection and employment of homogenous aortic graft are perfectly well postoperatively in contradistinction to patients in whom many other anomalies of the large vessels and heart have been corrected.

The following is an example of correction of aortic coarctation:

B. L. W. age 20, white male, admitted to Ochsner Clinic on September 17, 1951, with the chief complaint of not being able to run or play like other children. Until the age of nine years, he had recurrent episodes of some type of seizure which caused him to "foam at the mouth" and chew

his tongue. He had not experienced these seizures since the age of nine. At the age of nine, his physician noticed that he had heart trouble, and at this time the boy first remembers having symptoms of shortness of breath upon exertion and a pounding in both sides of his neck. He played some baseball, but had to stop after a very short while. He does do rather strenuous work on the farm, but always notices the symptoms of shortness of breath and pounding in his head and neck. Three months before admission to the Clinic, he fainted shortly after drinking cool water. At the time he drank the water, he had just finished working in the hot sun. During the past three months, he has not fainted anymore; however, his shortness of breath has been worse. During this time, he has noted a greater inability to run and play than previously.

Physical examination revealed a blood pressure in the arms of 230/90; leg pressure was not obtainable. There were abnormally large pulsations and thrills in both anterior cervical regions. There was an aortic systolic murmur at the base of the heart transmitted to both sides of the neck. There was a questionable diastolic murmur in the third interspace and in the mitral area. The PMI was in the left sixth interspace in the midclavicular line. There were palpable arteries with murmurs in both subscapular regions. A presumptive diagnosis of coarctation of the aorta was made and the patient was admitted to Foundation Hospital on September 18, 1951, for retrograde aortogram. While in the hospital, a chest x-ray and cardiac fluoroscopy revealed cardiac enlargement predominantly of the left ventricle. There was some question of mild left auricular enlargement. The cardiac diameter measured 16.4 centimeters which was 40 per cent above the Ungerleider average of 11.7 centimeters. There was mild prominence of pulmonary vascular markings and some evidence of pleural thickening with minimal pulmonary congestion. There was a small aortic knob and rib notching was noted from the third to the ninth ribs posteriorly. Fluoroscopically there was some irregularity of the rhythm of the heart. The ascending portion of the aortic knob pulsated rather prominently. Retrograde aortograms made by injection of 70 per cent diodrast into the left common carotid artery revealed atresia of the aorta immediately distal to the left subclavian artery and tremendous development of collateral circulation in the left subclavian artery and its branches. Intercostal vessels were well demonstrated as was the left internal mammary and many other branches. The next films showed excellent filling of the descending segment of the aorta beyond the point of stenosis. There was slight dilatation of the poststenotic segment of the arch. No communication between the ascending and descending segments of the aorta was identified. It was concluded that there was either complete or nearly complete aortic stenosis just distal to the left subclavian artery and the stenotic segment was probably 2 centimeters in length.

The patient was discharged on September 21, 1951, from the hospital to await the obtaining of a satisfactory graft so that excision and grafting could be done. On January 13, 1952, the patient was readmitted to Foundation Hospital and it was noted that his general physical condition had deteriorated rather markedly since discharge. His symptoms were approximately the same, i.e., shortness of breath and extreme palpitation in the head and neck with slight exertion. The chest x-rays revealed the cardiac diameter to be 18 centimeters which was considerably larger than previously. Intravenous pyelograms revealed the kidney function to be good. The electrocardiogram originally showed sinus tachycardia with frequent auricular systoles, also multiple premature contractions and incomplete A-V block without dropped beats. There was extreme left axis deviation and multiple changes in the T-waves. This was considered to be typical of left ventricular strain and definite evidence of myocardial disease. The electrocardiogram taken on readmission and during his hospitalization failed to show any changes. The patient was dehydrated and digitalized. Laboratory examinations were all normal. On January 24, 1952, the patient was operated upon. The procedure was difficult because of the bleeding in the chest wall from large collaterals. The stenotic segment of the aorta was 37 millimeters in length and complete over a distance of 7 millimeters. The aortic arch appeared to be continuous with the subclavian artery. The entire stenotic segment was excised and a 61 milimeter long homogenous aortic graft was inserted. This graft was six weeks old and had been kept frozen. The patient withstood the procedure well and left the operating room in good condition.

Postoperatively, the patient generally did well; however, his cardiac status was precarious due to his preoperative condition of congestion, some cardiac failure and general debility. In the early postoperative period, fibrillation occurred but was controlled with quinidine. Two days postoperatively the blood pressure in the right arm was noted to be 150/60 and in the left arm 128/50. Pulsations were definitely present in both dorsalis pedis arteries. On the fifth postoperative day, the blood pressure in the right arm was 176/60 and in the left arm, 150/60, in the right leg 120/80 and in the left leg 110/85. Shortly before discharge on the fourteenth postoperative day, the blood pressure in the right arm was 178/75, left arm 150/75, right leg 138/78 and the left leg 140/80.

On February 7, 1952, the patient was discharged on quinidine and appeared in generally good health. He was walking and no shortness of breath was noted with this amount of exertion.

The patient was seen three months postopera-

tively and a chest x-ray made at that time showed no change in heart size, but there was diminution in the congestion in the lungs. Clinically, he was much improved, being able to walk one and one-half miles without dyspnea and no longer having pounding in the head and neck when walking. Pulses were irregular, the apical beat being 92 and the radial beat being 80. Blood pressure in the right arm was 150/50, in the left arm 150/50 and the dorsalis pedis pulsations were excellent in both feet. Clinically, the patient was considered to have an excellent result from the resection and grafting.

A telephone call to his local physician on February 28, 1953, which was approximately fourteen months postoperatively, revealed the patient to be in generally good condition. He was going to high school; whereas, preoperatively he had to quit school. He has had no syncope or headaches since surgery. There was very little shortness of breath and no evidence of pulmonary edema. His local physician said that the systolic pressure in the arms had risen slowly to approximately 185 systolic, but this had not affected the patient so far. He did continue to have an irregularity of the pulse and was on quinidine and digitalis. The peripheral pulsations were excellent.

CONCLUSION

In conclusion it must be emphasized that arterial hypertension is primarily a medical disease and most cases can be treated by conservative measures. However, there are many cases of secondary hypertension which are best treated and can be cured by surgical procedures. It is imperative, therefore, to evaluate each case of hypertension in order to determine whether the cause is correctable because complete cures can be obtained in most of such cases.

REFERENCES

1. Thorn, G. W., et al.: Clinical studies on bilateral complete adrenalectomy in patients with severe hypertensive disease, Ann. Int. Med., 37:972, 1952.

2. Merrell, J. P.: The role of the adrenal in hypertension, Ann. Int. Med., 37:966, 1952.

3. Hines, E. A.: Vascular reactivity in hypertensive disease. Hypertension, University of Minnesota Press, Minneapolis, 1951, p. 331.

4. Bell, E. T. and Pedersen, A. H.: Causes of hypertension, Ann. Int. Med., 4:227, 1930.

5. Goldblatt, H., Lynch, J., Hanzal, R. F., and Summerville, W. W.: Studies on experimental hypertension: production of persistent elevation of systolic blood pressure by means of renal ischemia, J. Exp. Med., 59:347, 1934.

6. Grimson, K. S. et al: Results of treatment of patients with hypertension by total thoracic and partial to total lumbar sympathectomy, splanchnicectomy and celiac ganglionectomy, Ann. Surg., 129:850, 1949.

7. Sprague, R. G., Kvale, W. F., Priestley, J. T.: Management of certain hyperfunctioning lesions of the adrenal cortex and medulla, J. A. M. A., 151:629, 1953.

8. Burns, Edgar: Personal communication.

PULMONARY DISEASE; DIAGNOSIS AND TREATMENT*

J. E. BLUM, M. D.†

NEW ORLEANS

Tuberculosis is still our primary pulmonary infection. Over the years there has been little added to aid in diagnosis. The x-ray remains the chief instrument in our armamentarium. Survey films by photofluorographic units have increased the number of cases found. However, I might mention that many pulmonary lesions are missed by conventional E.P.A. films. Lordotic, obliques, laterals and planigraphic views are not only helpful but at times are mandatory for diagnosis. There are newer cultural methods which may speed up the diagnosis.

In treatment, in the last few years, many new drugs and methods have come to the fore. Today, streptomycin and PAS (para-aminosalicylic acid) still lead the field. After seven to thirty days of streptomycin (1 gram daily) coupled with 12 grams of PAS daily, streptomycin is given twice weekly with PAS daily. Terramycin, aureomycin, neomycin and viomycin have all showed some antiproperties but none have approached the leader, "Strep. and PAS."

Tibione, even though having toxic properties, has been used when no results with the above have been forthcoming. This latter drug is most beneficial in fistulae and empyema. This brings us to the new wonder drug, isonicotinic acid hydrazide or INH. It is felt that INH should not be used alone because of the early loss of sensitivity, and also, it is not without toxic manifestations which may vary from increased reflexes to psychosis. Allergic reactions may be manifested by chills, fever, purpura, arthralgia, albuminuria and hepatitis. When used with streptomycin, PAS, or possibly one of the other antituberculosis drugs, synergism results and even though the organisms may become insensitive, spu-

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†From the Browne McHardy Clinic, New Orleans, La.

tum conversion may occur. The accepted dosage is 4 to 7 milligrams per kilogram of body weight.

It must be remembered that even though pneumoperitoneum has almost replaced pneumothorax in our armamentarium, there is still the case for which pneumothorax is the procedure of choice. Even though the pendulum has swung away from pneumothorax, it is my opinion that there will be a return to pneumothorax with better selection of cases coupled with antibiotic therapy.

It is timely to mention that cortisone causes an increased caseation and should be used only when absolutely needed and preferably covered with streptomycin after tuberculosis has been ruled out.

BRONCHIECTASIS

The chronic pulmonary condition is more and more being treated with antibiotics. The old diagnosed cases, not having had surgery, continue to have exacerbations. These have been treated with penicillin and after a change in the bacterial flora flared up with other organisms. Thus it seems that the offending organisms must all be controlled simultaneously and a combination of drugs used. Again it seems that if the patient is not sensitive to penicillin, a combination of penicillin and triple sulfas should be tried before streptomycin is used. Terramycin and chloromycetin also have been quite beneficial in controlling the infection when results were unattainable solely with supportive procedures, such as postural drainage, expectorant and bronchodilator drugs, and change of climate.

It is true that bronchiectasis is not seen today as it was twenty years ago, most of which is due to drug therapy of the pneumonias which usually caused death. Since the advent of antibiotic therapy, bronchiectasis per se does not cause death, but is still an entity which in the absence of tuberculous etiology can be adequately treated.

CARCINOMA

Primary carcinoma of the lung is fast becoming the leader in the carcinoma field. It has only been in the last fifteen years that the hopeless prognosis has begun to fade. We are chiefly concerned with the *early diagnosis*. This can only be accomplished by having a high suspicion index. The x-ray is the chief means of diagnosing this condition. However we are too prone to treat a painful shoulder as an arthritis for several months without resorting to careful history, physical examination, and x-ray. It has been shown that the average duration of time before diagnosis is four to five months. This delay is our fault in approximately 50 per cent of the cases. Another diagnostic aid is found in cytological techniques of preparing smears and blocks of sputum and bronchial washings. Naturally, bronchoscopy with biopsy is of extreme importance.

The important symptoms are: (1) cough, (2) hemoptysis, (3) development of asthma, (4) recurrent attacks of pneumonia, (5) pain.

Naturally, the treatment is surgical but we must embark on an over-all plan to educate not only the laity but also the profession. (1) X-ray surveys at six month intervals would surely increase the number of cases found. (2) More diligent history taking and physical examinations; (3) Better laboratory anud radiological examinations; (4) Develop a positive attitude and do away with watchful waiting.

HEARING AND SPEECH IMPAIRMENT IN YOUNG CHILDREN

WALLACE RUBIN, M. D.*
JEANNETTE K. LAGUAITE, PH. D.†
NEW ORLEANS

Most of us are aware of the recent advances in the diagnosis and treatment of hearing loss in adults, but there has been comparatively little interest in the hearing and speech problems of young children, that is, those under six years of age. The general practitioner, the otolaryngologist, or the pediatrician are often the first to be consulted concerning a hearing or speech problem in a young child. Frequently the advice given is to wait for improvement.

*Instructor in the Department of Otolaryngology, Tulane University.

†Assistant Professor of Speech Pathology, Department of Otolaryngology, Tulane University.

Were these children investigated thoroughly in the beginning, proper treatment could be instituted and further problems, such as speech deterioration and personality maladjustments, could be prevented from developing. It has been through the efforts of those working in the fields of clinical psychology, speech therapy, and audiology that progress is being made. We feel that the physician should no longer avoid this responsibility but should work hand in hand with those who have done so much to unearth basic information.

In most cases the presenting complaint has been one of lack of development of speech. One reason for our difficulty has been failure to realize that deafness is not the sole cause for a child not responding to sound. The training of a hearing impaired child differs greatly from that of the other children with speech retardation and consequently it is important to make the differentiation early. If we are to unearth some of the other causes for speech retardation, the total behavioral pattern of the child must be analyzed.

Another difficulty is to decide what method to use in testing hearing in young children. This is undoubtedly due to the fact that the average physician is not familiar with the tests that have been developed. Unfortunately, we have assumed that the same hearing tests used for adults can be used for children, but, as we have all learned from experience, pure tones are unsuitable stimuli for young children. Actually, the child does not respond consistently to pure tones because he is immature and they do not signify anything meaningful to him, such as does the sound of a bell or whistle. In other words, the child is no more mature perceptually than he is physically or emotionally.

Speech develops in a normal hearing child as a result of two forms of stimulation. First, the urge from within which finds expression in vocal form, and second, auditory stimulation from without, in the form of words which reach him through personal relationships. Both of these factors can be present for the deaf child. The first factor is natural, that is the urge from within, and the second, that of auditory stimulation from without, is up to the people in his home environment. In infancy, a deaf child's social relationship should not be different from the normal. All obvious wants can be satisfied because they relate to the body and are simple. As the child grows, however, gestures do not suffice as stimulation for the mind. The child must be able to hear and use language in order to be able to develop abstract concepts.

An extremely important fact that has not been realized until recently is that there is absolutely no difference between the vocalizations of the normal child and those of the child who is severely deafened, up until the age of 18 months.[3] In both, the vocal play is rhythmic and there are natural variations in loudness and pitch. They show trills of laughter, indignation, and emotion. Contentment is evidenced by quiet rhythmic tones, and urgent desire by louder and stridulent ones. These, we all know, are considered normal. However, after the age of 18 months, if the deaf child is left to himself, he tends to lose interest in using his voice and becomes more and more silent, unless he is disturbed emotionally. When he begins to use his voice less, he makes his wants known by pulling, pushing, and gesturing. Here at the age of 18 months the psychological and emotional breakdown of the child begins. If the natural pleasant tones of a deaf child are encouraged so that they are repeated day after day they become fixed in the child's mind through kinesthetic sensation. Finally, these pleasant sounds become automatic and serve as a natural basis for the development of speech.

Now let us return to the problem of testing the hearing of young children. If pure tone testing is not applicable, what then is the answer? In our opinion, the limitations of pure tones can best be overcome by the use of free field tests. Free field tests are those whereby the sounds are presented freely in the immediate area surrounding the child. This procedure is in contrast to that of presenting the sounds directly to the ear as is done in the formal audiometric

test. Sound makers such as bells, symbols, pitchpipes, and whistles are suitable for producing the sounds. The approximate frequency and intensity range of each sound maker can be determined. Readings can be taken at given distances from the ear and thus the intensity can be regulated. The response to sound by this type of testing is determined by a method called "cessation of activity."[9] Whenever possible, the child is engaged in an activity, such as rolling a ball. It is most effective to have the child engaged in this activity with the parent. Free field sounds at predetermined distances are introduced while the child is playing. Sounds of mild intensities are given first because some children respond better to faint sounds than they do to loud sounds. The child usually responds by momentarily interrupting the activity in which he is engaged. This type of cessation of activity response is useful with children as young as one year of age. However, the type of activity selected must be suitable for the age level of the particular child. It is obvious to all that this is a simple, inexpensive method of examination, one that can be utilized in any office with a minimum of fancy equipment. It does require much time and patience and does not lend itself to the rush of routine office hours. This method is flexible and can also be used with negativistic or hyperactive children.

There are many elaborate procedures that have been developed which are more objective than the one described here. Some of these other tests are: psychogalvanometry as advocated originally by the Hopkins[1, 5] group; electroencephalography as practiced by Marcus and Gibbs[6] in Chicago; and the peep show audiometry as originally suggested by Dix and Hallpike[2] and modified by others, such as Guilford and Haug[4] in Houston. All of these methods add to our armamentarium of diagnostic procedures but all have the limitation of the experience and ability of the operator and the expense and difficulty of administering the test.

We have previously mentioned that besides deafness, there are other causes for lack of response to sound. These conditions are aphasia, psychic or emotional deafness, and mental deficiency. To differentiate these conditions in early life, one must evaluate the child's total behavioral pattern. This pattern can only be discerned through a detailed history and careful clinical observation, in addition to a study of motor performance, mental capacity, and social maturity.

We do not propose that the physician become a proficient practicing clinical psychologist, sociologist, or psychiatrist, but if we are to make sensible suggestions to parents, we must acquaint ourselves with some of the outstanding characteristics of the emotionally disturbed, the aphasic, and mentally deficient child.

So that we may have a basis for comparison, we will first describe some of the characteristics of a child with a true hearing loss.[9, 10]

1. Speech development is retarded.
2. The voice has a characteristic tonal quality. The ear monitors tonal quality and the child speaks as he hears.
3. The child does not improvise sound for pleasure, but uses his voice for utilitarian purposes. For example, he does not sing to himself. He will make sounds, however, when he wants food and attention.
4. The child uses his voice projectively, that is, by means of his voice and sounds he projects himself into his environment to attract attention.
5. The deaf child uses gestures to make his wants known, that is, he assumes symbolic behavior which is a form of language.
6. A deaf child responds consistently to those sounds he can hear.
7. A deaf child is unusually sensitive to vibration, movement, and other visual cues.
8. The gait of the deaf child is often characteristic. The child may drag his heels because he doesn't hear himself walk.
9. A deaf child often makes a great deal

of noise during mastication because he cannot hear himself chew.

10. The deaf child has poor social rapport; there is much preoccupation with objects and things and little contact in a give and take manner with people.

Some of the characteristics of the child with psychic or emotional deafness are:

1. This child has a history which reveals that he has been considered primarily a behavior problem rather than a problem of hearing impairment.
2. Most have good vocal quality.
3. Frequently the parents give good evidence for hearing. They may make a statement such as "sometimes he seems to hear me." Often children will produce speech, such as "yes" or "no" under stress situations or when they are separated from their parents. We can thus conclude that they have been able to hear within normal limits.
4. Their laughter and gait are usually like those of a normal hearing child.
5. Often, paradoxically, they respond to what may be called pleasant sounds of low intensity but show no response to high intensities even though these may be expected to stimulate pain and fear.

Let us now consider the aphasic child.

1. The aphasic child is most inconsistent in his response to sound.
2. He does not gesture if he is a predominantly receptive type, because he lacks symbolic language.
3. He does not respond objectively with his hearing.
4. He does not respond well to vibrations, movements, or other visual cues.
5. Aphasic children are often attentional problems. They seem to be abnormally preoccupied with one activity.
6. The aphasic child can be trained or conditioned to respond to sounds which he has learned to interpret. For example, an aphasic child can be taught to respond to the noises of removing a cookie from a jar.
7. Psychological test results usually show wide discrepancies between verbal and performance levels. They may also reveal characteristic perceptual disturbances of the brain damaged.

Finally, the symptomatology presented by the mentally deficient child is:

1. He is deficient in curiosity, imagination, attention, and interest.
2. There is a generalized retardation in learning to care for himself.
3. The response to sound is erratic, especially if pure tones are used.
4. Subtle responses to normal speech sounds can often be elicited.
5. Vocalizations are made for pleasure and the quality is like that of children with normal hearing.
6. There are often other evidences of interference with physical development.
7. Mental tests, while not always conclusive, usually reveal marked retardation.

We have stressed the importance of diagnosing hearing impairments and speech retardation at as young an age as possible from the following aspects:

1. Advantages of early training.
2. Methods of hearing testing.
3. Characteristics of the hearing impaired child as compared with the emotionally disturbed, the aphasic, or the mentally retarded child.

REFERENCES

1. Bordley, J. E., Hardy, W. G., and Richter, C. P.: Audiometry with the use of galvanic skin-resistance response. Bull. Johns Hopkins Hospital, 82:569, 1948.

2. Dix, M. R. and Hallpike, C. S.: The peep show, Brit. M. J. November 8, 1947, 719-723.

3. Ewing, I. R. and Ewing, A. W. G.: The ascertainment of deafness in infancy and early childhood. Laryng. & Otol. 59:309, 1944.

4. Guilford, F. R. and Haug, C. O.: Diagnosis of deafness in the very young child, Arch. Otolaryng. 55:101, 1952.

5. Hardy, W. G. and Pauls, M. D.: The test situation in PGSR audiometry, J. Speech and Hearing Disorders. 17.13, 1952.

6. Marcus, R. E.: Hearing and speech problems in children. Arch. Otolaryng. 53:154, 1951.

7. Myklebust, H. R.: Aphasia in children. J. Exceptional children. 19:9, 1952.

8. Myklebust, H. R.: Differential diagnosis of deafness in young children, J. Exceptional Children 17:97, 1951.

9. Myklebust, H. R.: Personal communication.

10. Myklebust, H. R.: The relationship between clinical

psychology and audiology, J. Speech and Hearing Disorders 14:98, 1949.

11. Utley, J., Procedures for examining very young acoustically handicapped children. (National Society for Crippled Children and Adults: Chicago, 1949)

FUNCTIONAL HEADACHE*

FRANK A. DONALDSON, M. D.
WILLARD L. WALDRON, M. D.
JACKSON, MISSISSIPPI

THE PROBLEM

In 1924, Graven[1] wrote, "One of the most baffling problems in medical therapeutics is that of dealing with the treatment of headaches. The main reason for this lies in the failure to detect the exact etiology of headaches, and, strange to say, the casual factor, the psychic, which should most obviously, because of its frequency, force itself upon medical practitioners, is the one most neglected."

ETIOLOGY

Alvarez[2] lists 26 types of headache, including one type, "unusual headaches," under which he gives 16 other causes of headache. Curry and Shnider[3] give the following diagnostic classification of headaches in a series from the diagnostic clinic of Georgetown University School of Medicine: psychoneuroses 38, migraine 21, postlumbar puncture 3, epileptic 2, hypertensive 2, unknown 2, and brain tumor 1. They feel that these are representative of headaches encountered in the ambulatory patient. Cabot,[4] in 1911, at Massachusetts General Hospital, in a series of 2246 cases, listed 46.2 per cent as psychoneurosis, while 23.1 per cent were of unknown origin.

Ogden[5] who has made an extensive statistical study which was arranged for IBM assortment and was checked for error by a statistician, reports an incidence of 68.4 per cent for all types of headache in a series of 4,634 adults. His studies indicate the following interesting points. Headache is directly proportional to degree of education and inversely proportional to age in years. It occurs more frequently in those whose occupations embody more tension, worry, and responbility. Elsewhere[6] he notes that only 18 per cent of headache sufferers seek aid specifically for that complaint. Incidence is higher for females in all of the groupings he used. Although worry ranks fifth as a suspected cause in all groups and emotions fourth in one group and eighth in the other three groups, the treatment was directed by a psychiatrist in only 0.1 or 0.2 per cent of the total headache cases.

Definition of functional headache is itself a point of dispute. The term should be limited to headaches in which no organic basis can be demonstrated, and, as Friedman et al[7] state, "should be limited to head pain occurring in relation to constant or periodic emotional conflicts, which may be conscious or unconscious." From this definition we feel that migraine and allergic headaches should be regarded as functional since careful study in most cases disclosed strong contributory psychic factors.

MECHANISMS OF PAIN

Wolff[8] has adequately described the pain-sensitive structure of the head, pointing out that traction, displacement, and distention of the tributary veins of the venous sinuses, large arteries at the base of the brain near the circle of Willis, cranial nerves and branches of the external carotid artery caused pain. Other experiments disclosed that prolonged contraction of the muscles of the neck and scalp produced pain.

DIAGNOSIS

After ruling out organic pathology, a complete and detailed psychiatric history is taken, with particular reference to presence of headaches in the family, exact description of the circumstances and nature of the original attack, changes in the type of headache and relationship between headaches and emotional stimulation. Drugs altering vasodynamics may be used diagnostically. On several occasions we have been able to reproduce the acute pain by forced hyperventilation. Relief of pain with small doses of 2 per cent solution of sodium pentothal intravenously (5 to 10 cubic centimeters) followed by verbalization of conflict at the hypnotic level of narcosis is a valuable procedure.

Thompson[9] describes two general types of

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functional headaches as presented by complaining patient. The first involves sensations of discomfort, pressure from within or without the head, constrictions and numbness of the scalp. The second involves real and severe pain, particularly in the frontal or occipital regions, which may radiate down the neck or over the head and there localize on one or both sides. Regarding the first type, Wolf[10] associates them with depressed and anxious patients and notes that they are accompanied by other physical signs of anxiety, are resistant to analgesic medication and may persist for weeks or months.

TREATMENT

Darnley[11] points out two phases in treatment, the first directed toward relief of the acute attack, the second, long term therapy aimed at prevention of attacks. This latter phase chiefly embodies psychotherapy. The first phase is usually accomplished with analgesic drugs, local application of heat and cold, and/or drugs altering vasodynamics or relieving muscle tension. Grenfell[12] compared the effectiveness of DHE-45,nicotinic acid and cafergot in tension headache. He found DHE-45 best, nicotinic next, and cafergot least effective in relieving the acute attack.

It was our observation that patients suffering from other neuropsychiatric problems frequently included headaches of recurrent or persistent type in the review of complaints by systems, and that the headache was relieved along with other symptoms by shock therapy. In these cases we felt that it was only proper to consider the headache as part of the original syndrome. On this basis, we could see no valid reason for not considering headache alone as the single manifestation of severe conflict, not infrequently incapacitating. Although we had excellent rules in many cases with the procedures outlined above, certain cases remained intractable. Usually these patients had consulted from two to fifteen physicians prior to being referred to the psychiatrist. This search for relief had accomplished two adverse results, destruction of faith in medical science and depletion of finances. To overcome the former would demand more prolonged psychotherapy than the latter would permit. We decided to employ shock therapy in such cases to accomplish the first phase of treatment.

Between 1949 and 1952, we treated 14 headache cases, all females, with electric shock treatment and sub-shock insulin. Their ages ranged from twenty-seven to forty-five years. Headaches had been present from one year to "life," occurring at intervals of from twice a month to constantly. In each case both hostility and guilt were established from the psychiatric history. All had had two or more of the usual procedures employed in the first phase of treatment without more than the most transitory improvement, headaches returning within a few days after treatment. They received from 3 to 6 ESTs and from 1 to 5 insulins. In 9 of these we obtained sustained freedom from headache, 3 were improved as to frequency and severity, 2 were unimproved. Six followed with psychotherapy and 5 of these have had only occasional mild headaches at widely spaced intervals.

From these 14 cases we can draw the following composite picture. The patient is a thirty-five year old white female, married, with two children. Her husband is employed by someone else. Her parents are living, are not congenial and her mother has been in poor health for years. Her father rigidly applied a standard of morality to his children. The parents have always been critical of others. Aside from resentment of parental restriction, her childhood was not remarkable. Her adolescent social adjustment and her dating were restrained and restricted, she was inhibited and frequently envious of other girls. She married at nineteen after finishing high school. Her parents disapproved of her marriage and made her feel that she had not discharged her responsibility to them. It took her five years to become sexually responsive to her husband. He became irritable, fault-findinf and a moderate user of alcohol. She turned to her family but found herself rejected in favor of more passive siblings. Her efforts to win their approval by doing

them favors and services were not rewarded, either by approval or reciprocation.

Headaches began seven years prior to being referred to the psychiatrist. At first they were in the neck, radiating to the frontal or temporal regions, appeared to be associated with menses, and were quickly relieved by aspirin or BC's. She become irritable with her children. The headaches gradually increased in frequency and severity, localized in the temporal region, sometimes unilaterally, sometimes bilaterally, were throbbing and pounding in character, lasted for several hours and responded poorly to analgesics and sedatives. Physical examination was noncontributory.

Her relationship with her husband and her neighbors deteriorated. She was no longer able to join in social activities, nor could she care for her home in the scrupulously clean manner that had previously been her habit. She began a round of physicians and underwent several forms of treatment without sustained relief. Histamine injections did give a month of relief but relapse followed. At this point she was taking several little white tablets a day and frequently had to take one or two red capsules at night. Occasionally, her physician would have to come to the house and give her a shot for relief. She was never entirely free from a little nagging headache. It did not exactly hurt, just felt uncomfortable. The bad ones occurred once or twice a week and sometimes lasted two or three days.

At this point she was referred to the neurosurgeon, who found no organic pathology and referred her to the psychiatrist. She was resistant and her husband was both broke and disgusted.

Such a patient presents a severe therapeutic problem. Usual methods may signally fail and in such cases we believe shock therapy is indicated. Our procedure is to give EST on the first two days, then alternate with sub-shock insulin until relief is obtained. We have had to use no more than six ESTs in our cases. The usual period of hospitalization has been ten days.

CASE REPORT

Case No. 1: A thirty-seven year old female, married, three children, admitted September 5, 1950, with complaint of vertigo and headache. History of sudden onset with vertigo, unsteadiness, headache, nausea and vomiting two months prior to admission. This last had been continuous with acute exacerbations characterized by sharp, stabbing pains in the right ear and diplopia at the height of attacks.

Past history disclosed she was the child of rigid parents whose perfectionism she could never gratify. She led her class in high school and was in the upper fifth in college. She married at twenty-five and has had seven pregnancies with four miscarriages. About five years before the present acute episode, following a miscarriage, she underwent a series of cyclic swings of mood. Since then she had had periodic migraine-like headaches and postmenstrual tension headaches, for which she had been treated with vasoconstrictors and vasodilators. In 1942, she had a supravaginal hysterectomy. She has demanded perfection in her children.

The family history revealed no contributory data except diabetes in the father.

Physical and neurological examinations were normal except for blood pressure of 82/64 and slight right horizontal nystagmus. Laboratory studies, including spinal fluid were within normal limits. Skull x-rays were negative. EEN&T and neurological consultations did not contribute positive findings.

She was treated with nicotinic acid, dramamine, and intravenous histamine with improvement. On September 10, 1950, she was discharged with diagnosis, headaches of undetermined origin.

She was readmitted September 28, 1950, with headache, ataxia and vertigo, and with further complaints of nervousness, agitation, and depression. Ventriculography showed good filling of the ventricular system without abnormal shifts or dilation. Spinal fluid continued normal. Psychiatric consultation revealed anxiety and conversion signs, while under pentothal synthesis she expressed marked hostility toward her father because of his extreme rigidity in rearing her and because he never accepted anything she did as satisfactory. She appeared to identify her husband with her father and felt that she was failing to please her husband and was unsuccessful as a mother. She was discharged on October 10, 1950, as unimproved.

On October 24, 1950, she was readmitted with provisional diagnosis of vascular headache. There was no change in physical or laboratory findings. BMR was plus 3. She was given four ESTs and three light insulin reactions. Her headache disappeared after the third EST, while depression which had been present on readmission disappeared on the fifth day of treatment following the second insulin reaction. She was pleasant, relaxed, and fully coordinated when discharged as improved on November 1, 1950.

Psychotherapy at weekly intervals was instituted on her discharge. There was no return of symptoms until she visited her father's home in January, 1951. On January 16, 1951, she was readmitted with mild vertigo and slight headache. She was apprehensive lest she have a full return of symptoms and was discharged January 19, 1951, as improved.

Psychotherapy was continued for another two months and discontinued. In March 1953, she reported that she had had no further symptoms.

SUMMARY

1. Functional headaches have been considered from the standpoints of etiology, mechanisms of pain, diagnosis, and treatment.

2. Two phases of treatment have been emphasized, relief of the acute attack and prophylaxis against recurrence.

3. The use of shock therapy, both EST and sub-shock insulin, has been suggested in certain intractable cases to effect the first phase.

4. Results in 14 cases have been summarized and a composite picture of the headache case drawn.

5. A case illustrating the use of shock therapy for the first phase and psychotherapy for the second has been presented.

REFERENCES

1. Graven, P. S.: A series of clinical notes on headache, Psychoanalyt. Rev. 11:324, 1924.

2. Alvarez, W.: Headache. Oxford Medicine Vol. VI, part 2:917 New York, Oxford University Press, 1947.

3. Curry, J. J. and Shnider, B. I.: Headaches; their analysis and treatment, GP 6:66, 1952.

4. Cabot Quoted by Curry and Shnider.

5. Ogden, H. D.: Headache statistics: selected data, Ann. Allergy 10:555, 1952.

6. Ogden, H. D.: Headache studies. Statistical data. I. Procedure and sample distribution, J. Allergy 23:58, 1952.

7. Friedman, A. P., Pool, N. de S., and von Storch, T. J. C.: Tension headache, J. A. M. A. 151:174, 1953.

8. Wolff, H. G.: Headache and Other Head Pain. New York, Oxford Univ. Press, 1948.

9. Thompson, L. J.: Characteristics of headache in anxiety and hysterical reactions, North Carolina M. J. 9:606, 1948.

10. Wolf, G. A.: Headache mechanisms and their relation to diagnosis and management. Pennsylvania M. J. 54:1, 1951.

11. Darnley, J. D.: Common types of headache and their treatment, Miss. Doctor 29:282, 1952.

12. Grenfell, R. F.: Treatment of tension headache, Am. Pract. 2:933, 1951.

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CARE OF VETERANS WITH NON-SERVICE-CONNECTED DISABILITIES BY THE VETERANS ADMINISTRATION

The problem of the care of veterans with nonservice-connected disabilities by the Veterans Administration has been before Congress at various times. It was considered briefly in the latter part of the last session of Congress and will, no doubt, be considered again in the second session of the present or 83rd Congress. The implications of any plan that may be arrived at are going to be far reaching.

As the law stands at present the Veterans Administration takes care of veterans with service-connected disabilities. It also takes care of veterans with nonservice-connected disabilities when facilities are available, and when the veteran signs an affidavit stating that he is unable to pay for needed care. On the one hand, this affidavit and the statements made in it are never investigated. On the other hand, there has been expansion of facilities and pressure for even further expansion, presumably to take care of any veterans who might apply.

In the closing days of the first session of the present Congress, discussion of certain phases of this problem became heated. The house instructed its Veterans Affairs Committee to go into the matter and report back. Two weeks of hearings ensued which were concluded on July 21. Before this Committee, opposing views were given by the several parties concerned. The positions taken were approximately as follows: Veterans organizations, with one notable exception, (AMVETS) maintained that nonservice connected medical care in VA hospitals is a right of all indigent veterans and that the VA should not have to investigate the ability to pay affidavits. The American Dental Association, supported by AMVETS, considered that the theory of the service-connected tooth was scientifically unsound. They said that the practice of caring for this type of dental problem "goes beyond the obligation of the government to the veteran." The American Medical Association, the National Medical Veterans Society, the American Hospital Association, and similar groups considered that there should be a law stated in unequivocal language which would rule out nonservice-connected medical care in veterans' hospitals, except for long-time tuberculosis and neuropsychiatric cases. The two latter types of cases were to be cared for within the limits of existing facilities. The stand taken by the American Medical Association was in accordance with the findings of a special committee set up to study the problem in December 1951, and in accordance with the action of the House of Dele-

gates, in June 1953. The statement supporting this position was presented by Dr. Walter B. Martin, president-elect, and member of the Board of Trustees of the American Medical Association. He made it clear that as a veteran and as a physician he was fully appreciative of the contribution made by men in uniform to their country. He was equally appreciative of the problems, medical and otherwise, which arise during and as a result of their service. He stated with respect to the care of veterans with service-connected disabilities that the American Medical Association is, and always has been, in complete accord with the overwhelming sentiment of the American people that the federal government has a duty to care for any man who has become physically and mentally handicapped as the result of miltary service, but in regard to nonservice-connected disabilities the position is different.

Since 1924, on more than thirty occasions, the House of Delegates and Board of Trustees of the AMA have considered various aspects of this problem. It was pointed out to the Committee that, although much discussion had been devoted to the validity of reported statistics and to the efficiency of the Veterans Administration in the operation of the medical program, it was the belief of the American Medical Association that the really basic questions involved have been ignored. Dr. Martin stated that the problem called for more definite legislation, if we are "to reorient our thinking and to recognize the dangers which threaten the foundations of our basic philosophy before we reach the point of no return in terms of collective socialistic planning." It was felt that Congress should itself decide several questions: First, whether existing legislation providing hospitalization and medical care for veterans with nonservice-connected disabilities is sound. Second, whether the federal government should continue to engage in a large scale medical care program in competition with state, local, and private medical institutions. Third, whether the ever increasing cost of such a program is a proper burden to impose upon the taxpayers of this country.

The feeling of the AMA was that Veteran Administration hospitals should discontinue the care of nonservice-connected disabilities, and that the responsibility for such care should revert to the individual, or in the case of indigent veterans, to the community. The exception to this recommendation was that tuberculosis and neuropsychiatric disorders, within the limits of existing facilities, be cared for by the Veterans Administration, for the reason that at the present time this is believed to be necessary because of the inadequacy of local facilities designed to provide treatment for all such cases. It was pointed out that the burden of providing such care for nonservice-connected disabilities involved great expense and great expansion of the present physical facilities. At present, there are approximately 20,000,000 veterans with an annual increase of approximately 1,000,000. Of this total, 15,000,000 are veterans of World War II whose average age is about thirty-three. The Veterans Administration anticipates that at the turn of the century there will be 3,404,000 World War II veterans alive with an average age of about seventy-eight. With the number of veterans increasing yearly and their disabilities increasing in proportion, it is clear what the tax burden would be. If political jockeying would contrive a change in the law by which the responsibility of the Veterans Administration would apply to veterans and their family, State Medicine will have been established by the simple process of infiltration.

It was pointed out by Dr. Martin in the hearing that in 1940, there was no talk of a shortage of physicians. In 1952, when the population of the country had increased by 20 per cent, the physician population had increased by 28 per cent to a total of 216,200 physicians. At this time, there is much concern about a shortage of physicians. The apparent shortage of physicians results from the federal government maintaining five major medical training activities for internes and residents. These are the Vet-

erans Administration, the Army, the Navy, the Air Force, and the United States Public Health Service. These medical services have gradually expanded their activities by drawing into their sphere a constantly increasing number of civilians who previously were cared for by private civilian medicine. Formerly, these services relied upon civilian training programs to provide skilled specialists; they now have embarked upon training programs of their own. In order to provide this, it is necessary for service hospitals to provide diversified clinical material. As a consequence, there has been increasing pressure to draw into these hospitals nonservice-connected general medical and surgical cases from among the veteran population, as well as dependents of service personnel. Veterans hospitals are thus in competition with civilian hospitals, not only for staff personnel but for patients.

In consideration of all these facts, the position of the spokesman of the AMA summarizes the feeling of organized medicine throughout the nation: The Veterans Administration should care for the veterans' needs for which it was set up, and the veterans and other government service medical facilities should not compete with civilian hospitals and with civilian medicine.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

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It will be too late to get this protection after the enrollment period is closed and that will be real soon. If you don't make application at an early date you will, not only lose this splendid protection for yourself, but will defeat the whole program which will be most beneficial to all our members but especially will it be a terrible loss to many of our members who cannot get this unusual insurance protection at any cost other than through our group plan offered you at this time. Don't just read this and forget it but get any policies you might already have out and compare them with what our group policy offers. I dare say, if you do this, you will enroll immediately with the Continental Casualty Company of Chicago — a large nationally known company of unlimited experience and funds, which company is now giving us our last chance to secure this superior non-cancellable policy without examination and disregarding your present physical status and at a lower cost, than you can secure under any other circumstances.

Why not enroll today and secure this wonderful protection before it is too late? Help our organization to complete this enrollment, thereby giving you and our members this most needed protection.

If the members don't enroll very soon it will be too late and they will lose a wonderful opportunity to secure this policy with unsurpassed benefits.

If you don't get this protection don't blame us—just reverse the kick.

———o———

RETIREMENT IS PART OF A CAREER

In the June, 1953 BULLETIN of the San Diego County Medical Society, Lucius W. Johnson, M. D., retired Navy Medical Officer, and an honorary member of the San Diego County Medical Society, gives his prescription for a successful retirement.

"In the Bible is a maxim: he who has put his hand to the plow cannot turn back. People who engage actively in useful work for years cannot stop all at once and expect to remain well and happy. Retirement is not the end of a career. It is an integral part of it, and as such it must be anticipated. Mind, body, and hands must be kept busy. No matter what your age, start now to prepare for retirement.

"Age causes more wrinkles in the mind than in the face, according to Montaigne, and many times the mind shows evidences of deterioration before the body. He is old who is no longer able to discover anything good in the ideas and opinions of the day. An attitude of obstinacy and belligerent criticism is part of this shriveling-up process. This attitude usually means that creative imagination is fading and that the field of interest is narrowing. Eventually, all thought is concentrated on one's self, and then a man has really achieved grade-A senility.

"It has been said that, while life begins at forty, so do fallen arches, bad eyesight, lumbago, and the tendency to tell a story three times to the same person. While we can hardly escape the physical ills, we can do a great deal to escape the mental ills because the mental ills of old age are caused directly by inactivity. One of my professors used to say that the way to keep any part of the body in good health was to exercise it every day to the limit of its capacity. This he insisted, applied to the brain no less than to the viscera and the muscles. Therefore, it is important to have at least one hobby that involves mental activity. If

it is creative, so much the better. Then you will add pride of achievement to joy of work.

"So here is my prescription for happiness in retirement:

1. Choose a suitable type of exercise, something you can do with people your own age.
2. Learn a hobby that will keep your brain and your hands busy.
3. Work with an organization that helps those less fortunate than yourself.

The most unpleasant way for a busy person to court death is to stop working."

———o———

WARNS AGAINST FEDERAL "MEDICAL SUPERMARKETS"

DENVER—"A chain of federally-operated medical supermarkets," detrimental to the health and economy of the entire nation, is still in the making, Dr. Edward J. McCormick, president of the American Medical Association, said here Friday night.

Speaking before the Rocky Mountain Radiological Society's midsummer conference, the Toledo (O.), surgeon called for a halt in the expansion of federal medical care for veterans with non-service-connected disabilities.

"Continued progress in medicine, as in any other field of free enterprise, is best achieved without interference from a highly centralized government authority," Dr. McCormick told the group.

"There still is a determined effort on the part of some special interest groups to foist upon the American people a national health program that would ultimately evolve into a chain of federally-operated medical supermarkets.

"Preferential treatment for veterans with non-service-connected disabilities cannot be continued indefinitely in view of the detrimental effect on the health and economy of the entire nation."

Dr. McCormick stressed that the American Medical Association does not seek to eliminate the well deserved, free medical care for veterans with service-connected disabilities.

"On the contrary," he said, "it seeks to improve the quality, availability and efficiency of such care by taking out of VA hospitals large numbers of patients whose disabilities would have developed even if they had not seen one single hour of military service."

He said that veterans' medical care and hospitalization benefits should be limited to: (1) veterans with peace-time or war-time service, whose disabilities or diseases are service-incurred or aggravated, and (2) within the limits of existing facilities, to veterans with war-time service suffering from tuberculosis or psychiatric or neurological disorders of non-service-connected origin who are unable to defray the expenses of necessary hospitalization.

The provision of medical care and hospitalization in Veterans Administration hospitals for the remaining groups of veterans with non-service-connected disabilities should be discontinued and the responsibility for the care of such veterans should revert to the individual and to the community, he added.

Explaining that he did not believe everyone seeking to bring about federal subsidization of medical care is purposely working against the best interest of the people, Dr. McCormick said:

"There are many zealots among them who sincerely believe in what they are doing. Their greatest fault is that they are woefully ignorant of basic medical economics. And some, such as leaders of certain veterans' organizations, are unwittingly planting the seeds of socialization when they continue to foster the expansion of free medical care for veterans regardless of need and service connection.

"Some leaders of veterans' groups claim preferential status for all veterans. In a democratic nation we cannot have two types of citizenship. To serve one's country is a duty and an honor, and the only claim which any of us have as basic right is that principle for which we fought—individual freedom and dignity. We did not follow the colors to become wards of the government."

Dr. McCormick pointed out that there are about 20,000,000 veterans in this coun-

try, and that the number is increasing at a rate of 1,000,000 annually. He cited government figures showing that of the 511,895 patients who were discharged from VA hospitals during the fiscal year of 1951, 432,995 (84.6 per cent) were treated for non-service-connected disabilities, and only 78,900 for service-connected ailments.

In 1951, Veterans Administration medical expenditures totaled $600,388,455. Of this amount $461,695,848 was expended on the VA hospital program.

"As of July 31, 1952, the Veterans Administration had in operation 154 hospitals with 116,986 beds," Dr. McCormick told the meeting. "Under construction were 22 hospitals, including additions which would provide an additional 13,231 beds. In the planing stage were six hospitals and 5,000 beds. This would bring the total of VA hospitals to 182, with 135,217 beds."

APPOINTMENT

Dr. J. Kelly Stone, New Orleans, has been appointed a member of the Council of the Southern Medical Association from Louisiana for a regular Council term of five years, beginning at the close of the annual meeting in Atlanta, Georgia, in late October, the appointment having been announced recently by the President-Elect, Dr. Alphonse McMahon, St. Louis, Missouri. Dr. Stone succeeds Dr. Edwin H. Lawson, New Orelans, whose term will expire with the close of the Atlanta meeting and who having served the constitutional limit is not eligible for reappointment.

We congratulate Dr. Lawson on a job well done and Dr. Stone on his appointment and we are sure he will fill this position in a manner which will do honor to our profession.

LOUISIANA STATE MEDICAL SOCIETY NEWS

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Morehouse	Third Thursday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

G. P.'s SPONSORING POST-GRADUATE TRAINING

The Orleans Chapter (1st District) of the Louisiana Academy of General Practice is once again sponsoring a post graduate course for the enlightenment of its members and other interested physicians. A symposium on the Gastro-Intestinal Tract will consist of 6 lectures, will be presented and each being two hours in length. Lectures are on October 15, 22, 29 and November 5, 12 and 19 at 8:00 P. M., in Hutchinson Memorial Auditorium.

This symposium has been accepted as formal post graduate training by the American Academy of General Practice. Each member of the Academy in order to maintain his standing, must complete one hundred fifty hours of post-graduate training every three years. Of this one hundred fifty hours, fifty must be formal post-graduate work and the remaining hundred hours made up of attendance at hospital staff meetings, local medical society meetings and conventions, etc. Any member who fails to meet these obligations is dropped from the Academy. These requirements are part of the policy of the American Academy of General Practice in encouraging continued education of its members and thereby improving the standards of the general practitioner.

All members of the Orleans Parish and Louisiana State Medical Societies are invited to attend. The registration fee is $15.00. Interested parties may register by writing to Dr. E. A. Fatter, 822 Maison Blanche Bldg.

NEW ORLEANS OFFICERS ATTEND MEDICAL FIELD SERVICE SCHOOL

Twelve officers from the New Orleans area are at Medical Field Service School, located at Brooke Army Medical Center, Fort Sam Houston, Texas,

to attend a four-weeks orientation course in military medical service. The class is made up of officers recently called to duty in the Medical Service Corps, they are:

Major Paul T. DeCamp, 2609 Nasville Ave., New Orleans.

Captain Ian M. Thompson, 4317 Banks St., New Orleans.

Captain Antonio Miranda, 310 Sena Drive, New Orleans.

Captain Arthur C. Johnson, 2516 Gentilly Blvd., New Orleans.

Captain James L. Lenoir, 103 Forest Ave., New Orleans.

1st Lt. John B. Bobear, Charity Hospital, New Orleans.

1st Lt. Samuel M. Peacock, 1237 Jackson Ave., New Orleans.

1st Lt. Donald R. McCurley, 8330 Spruce St., New Orleans.

1st Lt. Everette F. Kreider, 4328 Paris Ave., New Orleans.

1st Lt. Warren J. Wonka, 1565 Owens Blvd., New Orleans.

1st Lt. Ernest B. White, Garyville, La.

1st Lt. Gaylord S. Knox, 3278 De Saix Blvd., New Orleans.

The orientation course stresses medical service in war. Subjects include clinical procedures in war injury, essentials of treatment for combat exhaustion, and preventive medicine measures detecting health hazards and avoiding epidemics.

Medical Field Service School is the world's largest military medical school directing resident and extension training for officers and enlisted personnel of the Armed Forces. Graduates are qualified for professional and technical duty assignments at military hospitals and medical field units located at stateside and overseas stations.

NEW BLUE CROSS SERVICE

It has been announced that Blue Cross Medical Care Plan is now available and offered to Blue Cross Plan Subscribers who are patients at the De Paul Sanitarium on a flat rate of $6.00 and $8.00 per day. This is a flat rate coverage and does not include X-rays, laboratory or any other adjunct.

RADIOLOGISTS REORGANIZE SOCIETY

At the 73rd Annual Meeting of the Louisiana State Medical Society held in May 1953, the Radiologists of Louisiana met and re-organized their association. The name was changed to the Radiological Society of Louisiana from the Louisiana Radiological Society.

The Officers of the Association are as follows:

Henry M. Duhe, M. D., President, New Orleans.

G. M. Riley, M. D., Vice-president, Shreveport.

J. T. Brierre, M. D., Secretary-Treasurer, New Orleans.

THE NEW ORLEANS ACADEMY OF OPTHALMOLOGY

The winter convention of the New Orleans Academy of Ophthalmology will be held during the first week of February 1954. The subject of the symposium will be "Bacteriology and Infectious Diseases."

SOUTHERN MEDICAL ASSOCIATION TO MEET IN ATLANTA

The forty-seventh annual meeting of the Southern Medical Association will meet in Atlanta, October 26-29. Program plans are being completed by the officers of the twenty-one sections which compose the Association. Noted authorities will present papers dealing with the latest research and discoveries in all fields of medicine. The forty-seven half-day section sessions, the general session, conjoint meetings and exhibits will make this meeting one of the most complete general medical meetings of the year.

SECOND INTERNATIONAL CONGRESS OF CARDIOLOGY

The Second International Congress of Cardiology will be held in Washington, D. C., September 12-15, 1954. It will be immediately followed by the Annual Scientific Sessions of the American Heart Association, September 16-18, 1954. The opening session will be held in the auditorium of Constitution Hall at 10:30 a. m. on Sunday, September 12, 1954, with address of welcome. A reception will be given at the Mayflower Hotel at 5:00 p. m. on the same day for all Members of the Congress and their families. A banquet will be held September 15, 1954 at 7:30 p. m.

The Scientific Sessions lasting for three days will include formal papers, panel discussions, clinical pathological conferences and visits to important medical centers in Washington and Bethesda. The program will be printed in French, Spanish and English. Immediate translation of some of the papers and discussions will be made in three languages.

A series of Post-Congressional visits and conferences to at least 20 of the leading cardiac clinics in different parts of the U. S. and Canada has been arranged by special committees of local Heart Associations in the various cities.

The office of the Congress is 44 East 23rd Street, New York 10, N. Y., and the Secretary-General is L. W. Gorham, M.D.

INTERNATIONAL COLLEGE OF SURGEONS TO MEET IN NEW YORK IN SEPTEMBER

The Eighteenth Annual Congress of the United States and Canadian Sections of the International College of Surgeons will open at the Waldorf-Astoria in New York on Sunday evening, September 13, with a session open to the public on the "International Surgeons' Hall of Fame" with Dr.

Richard H. Shryock, Director of the Institute of the History of Medicine of Johns Hopkins University, Baltimore, speaking on "Fame in Surgery." The scientific program will open on Monday morning, September 14, with a session on "Advances in the Treatment of Cancer," with Doctors Charles S. Cameron of the American Cancer Society, Cornelius P. Rhoads of the Sloan-Kettering Institute for Cancer Research, George N. Papanicolaou of Cornell University Medical College, T. A. Watson of Cancer Services for Saskatchewan, Komei Nakayama of Chiba (Japan) University Medical School, and George J. Papayannopoulos of Athens, Greece, among the speakers. Themes for the other general assemblies will include "Teamwork in Rehabilitation"; "Advances in the Treatment of Cardiopulmonary Diseases"; "Advances in Thyroid Surgery"; "Surgical Treatment of Intervertebral Disc Lesions"; "Advances in Surgery of the Stomach and Intestines"; "Advances in Surgical Treatment of Diseases of the Esophagus"; and "Advances in Vascular Surgery."

MINERAL OIL AND VITAMIN A

The possible effect of the ingestion of mineral oil in removing the necessary amount of vitamin A from the food has been a source of comment and concern in recent years. An article recently (Steigmann, Popper, Dyniewicz, and Maxwell: Gastroenterology 20:587, 1952) reports a four year clinical research study on this problem.

It is concluded that no vitamin deficiency is traceable to the regular use of mineral oil as a laxative when the dosage is normal and the diet contins the normal vitamin A level. It was found that when the mineral oil was mixed with the meal in food that there was a slight drop in vitamin A, but when two tablespoons of mineral oil were taken at night, there was no drop in the vitamin A level.

SOUTHERN TUBERCULOSIS CONFERENCE

The Southern Tuberculosis Conference representing fifteen southern states and the District of Columbia will meet jointly with the Southern Trudeau Society on October 1-3 at the Jung Hotel, New Orleans.

BOOK REVIEWS

Technical Methods for the Technician; by Anson Lee Brown, M.D. 4th ed., Columbus, Ohio, Anson L. Brown, Inc., 1950-1951. pp. 784, illus. Price $10.00.

This is a laboratory manual devoted to all phases of clinical pathology. It contains basic features such as the use of an analytical balance and the microscope as well as unusual and difficult procedures such as the hyaluronidase assay of seminal fluid. All techniques are given in great detail step by step. Many illustrations are given with many in color. This is an excellent textbook for the technician who is interested in having readily available all laboratory procedures in one volume.

PHILIP PIZZOLATO, M.D.

Causalgia; by Frank H. Mayfield, M.D. Springfield, Ill. Charles C Thomas, Publisher, 1951. Pp. 54 Illus. Price $2.25.

This brief monograph in the American Lecture Series, of fifty-four pages with forty-three references, an index, and twelve figures, is based upon the author's own experience in military and civilian practice and supported by critical review of the medical literature on the subject, and tells about all that anyone need know, or at least all that is now available to be known, about this rare syndrome. The history of the syndrome is reviewed from the time of Weir Mitchell to include the best published lessons that came out of World War II experience.

The author believes that his observations support the hypothesis advanced independently by Granit, Leksell, and Skoglund, and by Doupe, Cullen, and Chance. This hypothesis is that a shunt may occur in a mixed nerve which in causalgia would be at the point of injury of such a nerve, so that impulses travelling outward from the central nervous system, in motor and autonomic fibers, may be shunted into sensory fibers and returned to the sensory centers in the brain, and there perceived as pain. This hypothesis is of great theoretical interest, and in the case of causalgia has revolutionized understanding and management. Physicians have long been impressed by the important relationship between the exaggerated emotional reaction and pain in causalgia. In the light of the new hypothesis, a mechanism is presented for that relationship in that autonomic impulses travelling outward from the central nervous system are a regular manifestation of emotional reaction and may lead directly to the initiation of pain, if a shunt exists in a mixed nerve. Because pain leads to exaggerated emotional reaction, and in causalgia exaggerated emotional reaction leads to pain, a vicious cycle is established. Interruption of the pain pathway by sympathetic block or, in the opinion of Mayfield, better by sympathectomy, has repeatedly led to a transformation of emotional status of the individual.

Details of the clinical picture observed in a large series of military cases are presented in tables and detailed instructions for treatment are described. This monograph is highly recommended.

R. H. TURNER, M.D.

Hypertension; A Manual for Patients with High Blood Pressure; by Irvine H. Page, M.D. Rev. 6th printing. Springfield, Illinois, Charles C Thomas, Publisher, 1951. pp. 90. Price $3.00.

This concise manual presents facts about hypertension in an authoritative and reassuring manner. The nature and purpose of the various aspects of the physical examination are discussed. The nature of the disease and its effects are presented in a factual but unfrightening manner. The discussion on the various forms of therapy and the desirability of developing a way of life is especially to be recommended.

This manual contains much factual information and suggestions which should help a hypertensive patient to understand the disease and to help him to cooperate in its control. It is highly recommended for hypertensive patients.

CLARENCE THORPE RAY, M.D.

The Treatment of Injuries to the Nervous System; by Donald Munro, M.D. Philadelphia, W. B. Saunders Company, 1952. Pp. 284, 47 figures. Price $7.50.

This volume is essentially a review of the personal attitudes of a leader in the field of the treatment of injuries to the nervous system. As such it may be of interest to neurosurgeons and others concerned with this form of practice. In the reviewer's opinion, however, it is not so organized as to be of value to anyone other than the few who wish to learn more of a fellow expert's opinions and prejudices.

DAVID A. FREEMAN, M.D.

Fundamentals of Psychiatry; by Edward A. Strecker, M.D., 5th ed. Philadelphia, J. B. Lippincott Co., 1952. Pp. 237, illus. Price $4.50.

In the preface the author states that this edition is addressed particularly to general practitioners and workers in every area of medicine and surgery. It is to this group, rather than to the experienced psychiatrist, that the book will appeal: it is brief, written with clarity and presents an eclectic summary of present day psychiatric theory and practice with little speculative or controversial material. That the book has served its purpose well is attested by the fact that it is currently in its fifth edition.

Besides well presented material on classification, diagnosis, and methods of examination, there are illustrative diagrams which the author has found valuable in his classroom teaching and a glossary of frequently used psychiatric terms.

In the chapter on "Treatment Including Psychotherapy" the author stresses the fact that the psychiatrist must first of all be a physician. There is a conservative but fair appraisal of the drastic therapies (insulin coma, electric shock, and leukotomy) and a discussion of the various types of psychotherapy with suggestions as to technique and applicability. In the reviewer's opinion the practice of psychotherapy is still far more of an art than a science and the most lucidly written descriptions and conceptualizations can never reproduce the subtle emotional coloring and "aliveness" of the material as it comes from the patient in the interview. A text book, like a cook book, is essential for the student—it lists the necessary ingredients and gives recipes—but the skill of the therapist like the skill of the chef comes only with long practice of the art.

Dr. Strecker's book offers a concise exposition of the importance of mental and emotional illnesses in medical practice and can be recommended highly to the beginner in psychiatry or to the interested medical practitioner. It deserves a place in every medical library.

HENRY H. W. MILES, M.D.

Radiologic Diagnosis of the Lower Urinary Tract; by D. E. Beard, M.D.; W. D. Goodyear, M.D. and M. S. Weeks, M.D. Springfield, Ill., Charles C Thomas, Publisher. 1952. Pp. 143. Price $6.50.

This condensed volume is an atlas of roentgenological diagnosis of a normal urethra and bladder and the pathological changes incurred in these and associated organs. The text includes a short summary of the anatomy and essential points of the etiology and pathology of the various diseases found in the lower urinary tract.

The book is practical and the material well organized. The technique described is simple and easily understood. The illustrations are clear and serve as excellent guides to one not familiar with these types of roentgenograms.

Although representative films are made of the various pathologic conditions it is felt that urethrograms are not indicated in all of them.

It is understood that although radiologic diagnosis of the lower urinary tract is a valuable asset it should still be considered only as an aid in our diagnostic armamentarium.

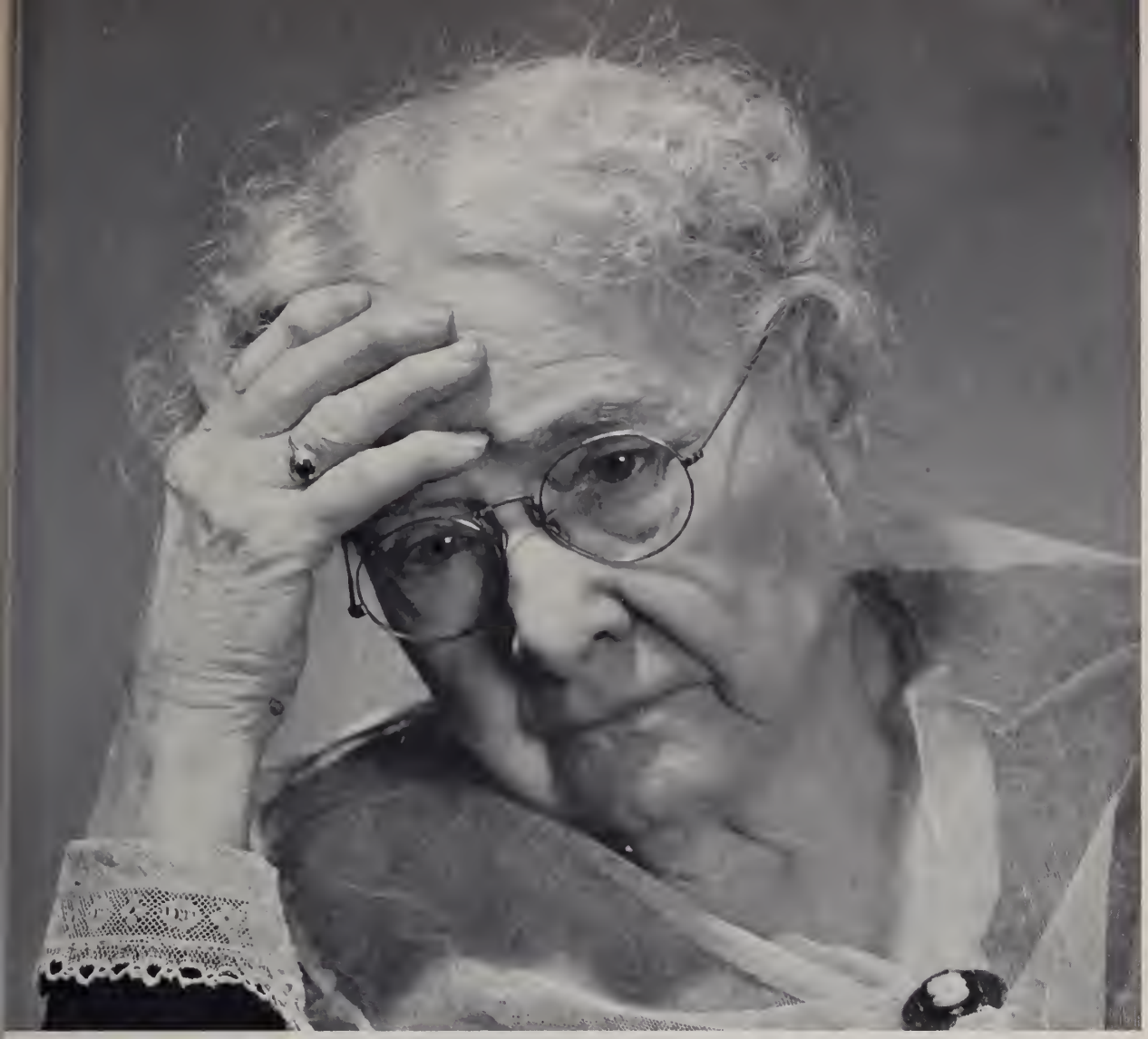
This book should stimulate interest in urethrograms and will serve as a practical guide and reference. It will appeal to urologists, radiologists, students, and some general practitioners.

JOHN G. MENVILLE, M.D.

PUBLICATIONS RECEIVED

Charles C. Thomas, Publisher, Springfield, Ill.: Atlas of Regional Dermatology, by Ernest K. Stratton, P.D., M.D., Harry L. Arnold, Jr., M.D., Maurice J. Costello, M.D., Lewis A. Koplik, M.D., and Paul Fasal, M.D.

The Williams & Wilkins Co., Baltimore: May's Manual of Diseases of the Eye, edited by Charles A. Perera, M.D., (21st Edit.).



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*Glass, S. J., and Rosenblum, G.: J. Clin. Endocrinol. 3:95 (Feb.) 1943.

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In the years beyond fifty, as well as before, continuous adequate protein nutrition remains an absolute necessity for maintenance of a normal concentration of plasma proteins and, in turn, a normal osmotic pressure of the plasma.[6] Even more pronounced in the aged than in younger persons are the ill consequences of hypoproteinemia—edema, decreased resistance to generalized infection, retarded bone healing, and poor wound healing.[7] Furthermore, dietary protein is essential for the continuous chemical regeneration of cell protein in the prevention of abnormal tissue wasting, one of the most characteristic and obvious changes in the geriatric patient.[8]

But meat is much more than an outstanding protective protein food in the dietary of persons over fifty. It also supplies generous amounts of the B group of vitamins and of iron, phosphorus, and other essential minerals. In the well-balanced diet of the later years of life, meat is just as important for the maintenance of nutritional and physiologic well-being as it is during the earlier years of life.

REFERENCES

1. Freeman, J. T.: Basic Factors of Nutrition in Old Age, Geriatrics *2*:41 (Jan.-Feb.) 1947.
2. Sherman, H. C.: Chemistry of Food and Nutrition, ed. 8, New York, The Macmillan Company, 1952, p. 208.
3. Tuohy, E. L.: Feeding the Aged, J.A.M.A. *121*:42 (Jan. 2) 1943.
4. Ohlson, M. A.; Roberts, P. H.; Joseph, S. A., and Nelson, P. M.: Dietary Practices of One Hundred Women from Forty to Seventy-Five Years of Age, J. Am. Dietet. A. *24*:286 (Apr.) 1948.
5. McLester, J. S., and Darby, W. J.: Nutrition and Diet in Health and Disease, ed. 6., Philadelphia, W. B. Saunders Company, 1952, p. 222.
6. Madden, S. C., and Whipple, G. H.: Amino Acids in the Production of Plasma Protein and Nitrogen Balance, Am. J. M. Sc. *211*:149 (Feb.) 1946.
7. Fishback, F. C.: Surgery in the Aged, Clinics *4*:1250 (Feb.) 1946. Zintel, H. A.: The Role of Nutrition in Preoperative and Postoperative Care, Am. J. M. Sc. *207*:204 (Feb.) 1944.
8. Kirk, J. E.: Nutrition and Aging, Nutrition Rev. *9*:321 (Nov.) 1951.

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1. Ferguson, C., and Miller, C. D.: J. Urol. *67*:762 (May) 1952.
2. Trafton, H. M., and Lind, H. E.: Ibid. *69*:315 (Feb.) 1953.
3. Blahey, P. R.: Canad. M. A. J. *66*:151 (Feb.) 1952.

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NOVEMBER 12, 13, 14, 1953

THURSDAY—November 12, 1953

9:00—10:00 A.M.—Registration
10:00—11:00 A.M.—Business Meeting; Election of Officers
11:00—12:00 A.M.—Sir Goeffrey Jefferson, Consulting Neurosurgeon, Manchester Royal Infirmary, Manchester, England
12:00— 2:00 P. M.—Committee Luncheons
2:00— 4:00 P. M.—Panel Discussion: "The Anatomy and Physiology of the Frontal Lobes"
Robert Heath, Moderator, Professor Neurology & Psychiatry, Tulane University
Stanley Cobb, Bullard Professor Neuropathology, Harvard Medical School
Harold Hemwich, Research Director Galesburg State Hospital, Galesburg, Illinois
Gerhardt von Bonin, Associate Professor Anatomy, University of Illinois
A. Earl Walker, Professor Neurological Surgery, Johns Hopkins University
4:00— 5:00 P. M.—Member inventors may present instruments or gadgets

FRIDAY—November 13, 1953

9:00—11:00 A.M.—Panel Discussion: "Psychosurgery: Indications and Sequelae"
A. Earl Walker, Moderator
Stanley Cobb
Gerhardt von Bonin
J. Lawrence Pool, Professor & Director Neurological Surgery, Neurological Institute & Presbyterian Hospital, New York
11:00—12:00 A.M.—Sir Goeffrey Jefferson—Topic Unannounced
12:00— 2:00 P. M.—Committee Luncheons
2:00— 6:30 P. M.—Free Afternoon
6:30— 8:00 P. M.—Cocktail Party
8:00 P. M.—Banquet and Dance

SATURDAY—November 14, 1953

9:00—11:00 A.M.—Panel Discussion: "The Use of Fluids and Electrolytes in the Management of the Neurological Patient"
Hyman Mayerson, Moderator, Professor Physiology, Tulane
Alton Ochsner
J. Lawrence Pool
A. Earl Walker
Walter Wilde, Department Physiology, Tulane
11:00—12:00 A.M.—Sir Goeffrey Jefferson—Topic Unannounced

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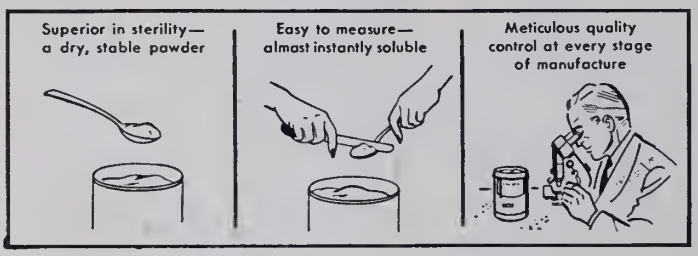

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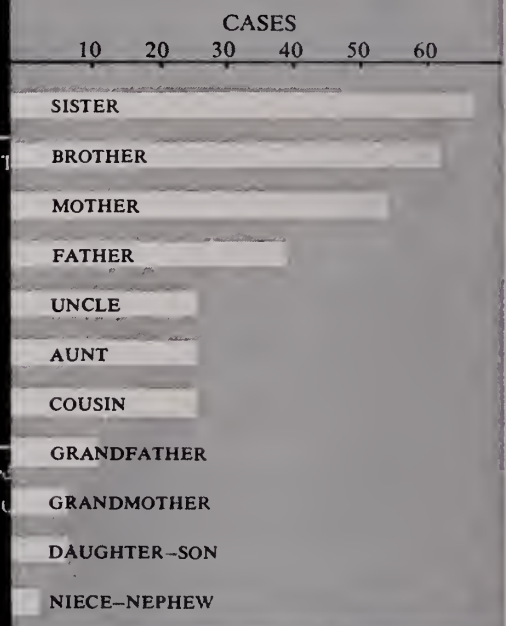

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1. Barach, J. H.: Diabetes and Its Treatment, New York, Oxford University Press, 1949, p. 38.
2. Allen, F. M.: Diabetes Mellitus, in Piersol, G. M., and Bortz, E. L.: Cyclopedia of Medicine, Surgery, Specialties, Philadelphia, F. A. Davis Company, 1951, vol. 4, p. 505.

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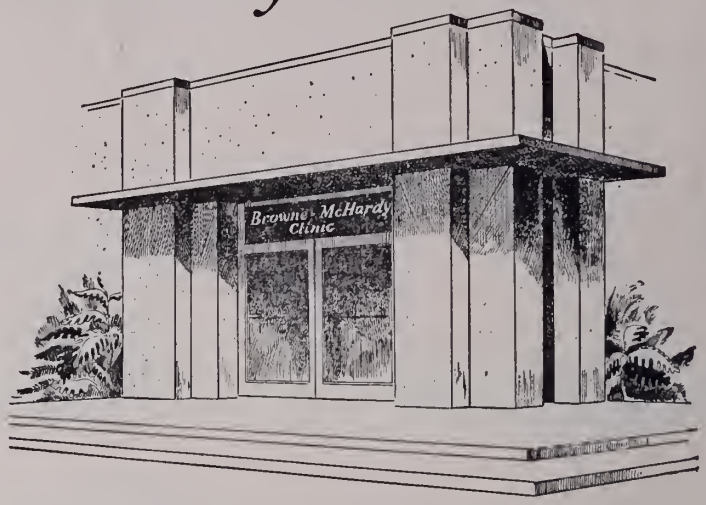

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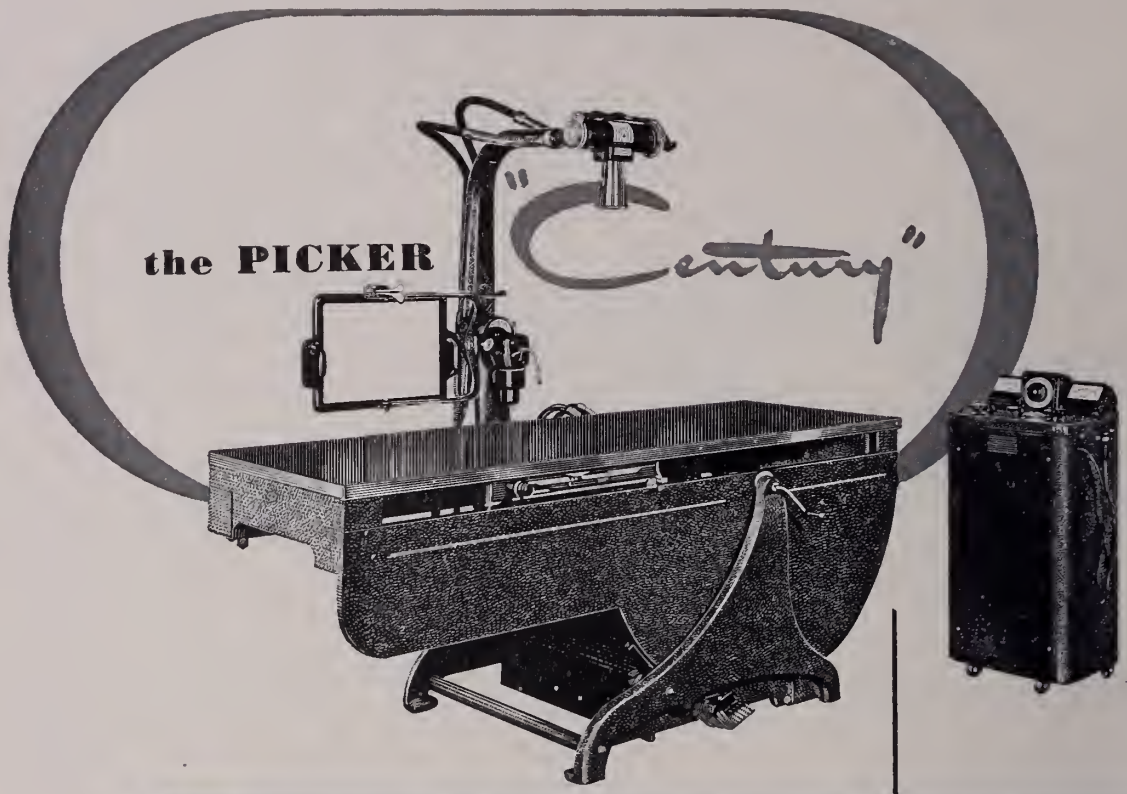

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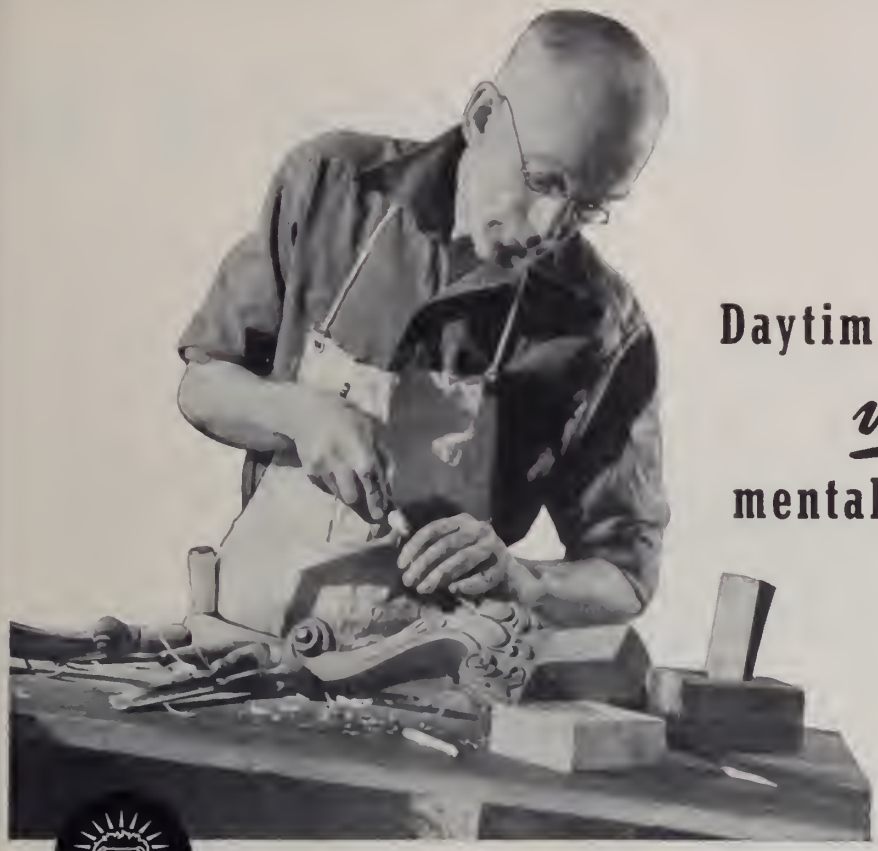

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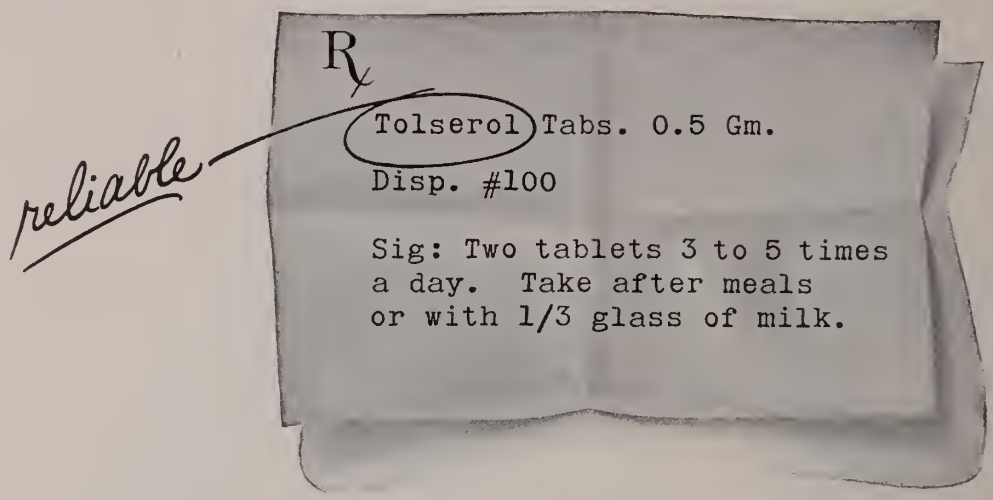

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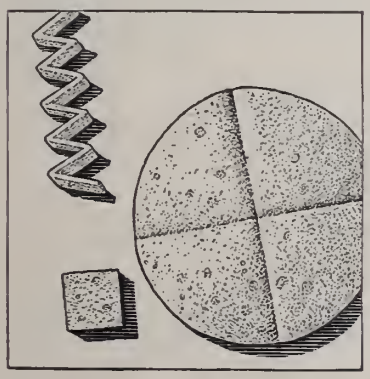

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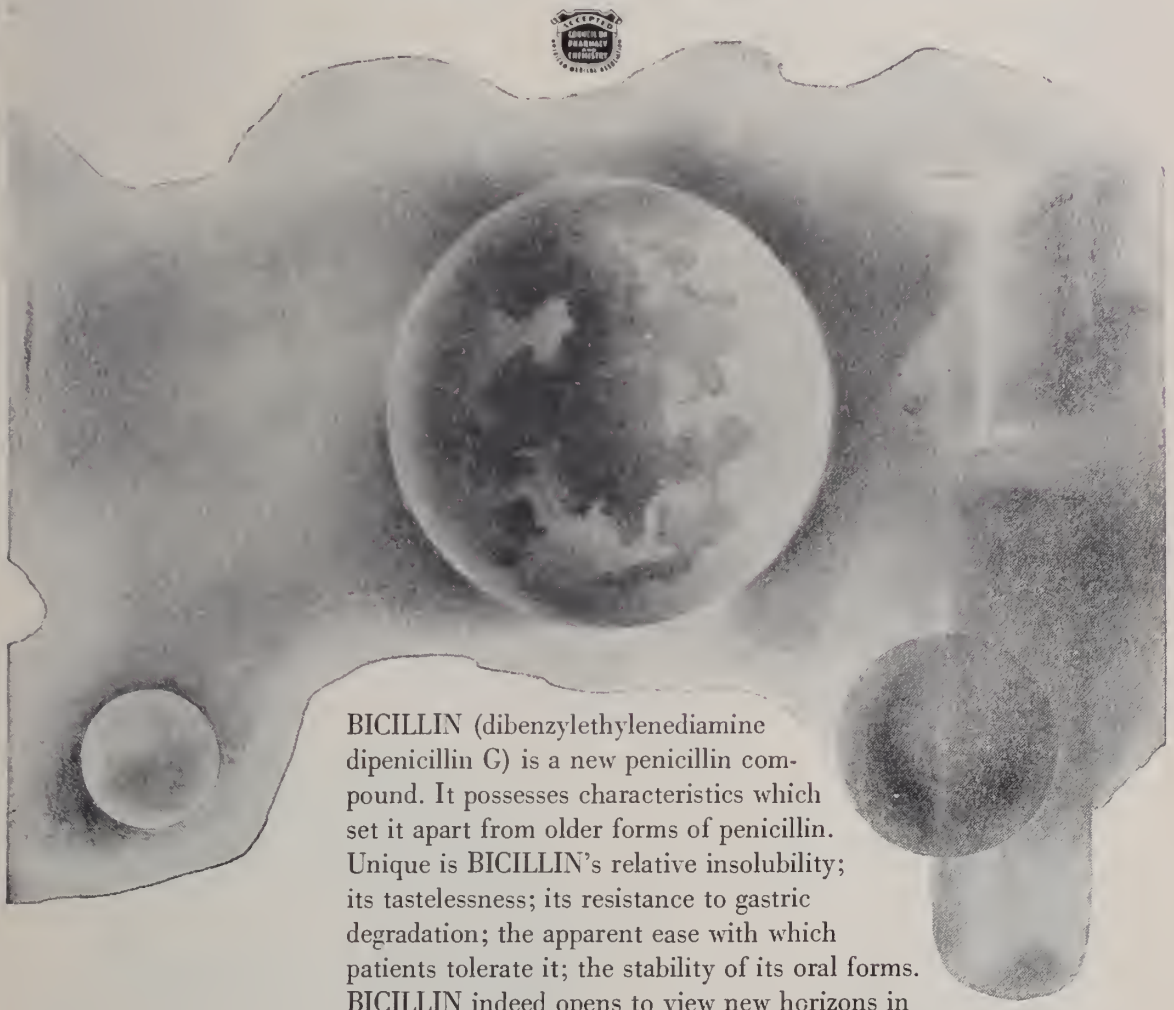

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THE TREATMENT OF ACUTE RESPIRATORY INFECTIONS*

CHRISTOPHER PARNALL, JR., M. D.†
ROCHESTER, NEW YORK

For the patient with the average low grade common cold no particular treatment is indicated. Probably the most sensible thing to do would be to tell your patient to worry along with it and not fret too much. However, most patients won't take this for an answer. They want something done of a nature more tangible to them. Certain it is that you have *to do something*. If you know your patient likes liquor, he will be pleased with your excellent judgment if you advise him to drink a hot toddy or two. Otherwise, there are numerous combinations of aspirin and phenacetin put up in attractive multicolored capsules. Many types of nose drops are available and most are harmless except those containing silver—which should never be used. One or another of the various types of inhalers seem to help occasionally. To list the cough syrups would require more patience than I possess. Those with codeine in them are the most effective. Bed-rest is quite reasonable to advise, but not practicable for most of us—the wolf is usually too close behind. If you know your patient is the weak retiring type, you can advise it. If you are dealing with an aggressive business executive, then tell him it won't hurt him to attend the board meeting—because it won't. Some patients will consult you and then start telling you what you should give them. In that case, that is the thing to do. After all, you're just trying to keep your patient happy. You can be sure in your own mind of one thing—nothing that you or your patient can do will make the slightest difference to the infecting agent, whatever it is.

Should the patient have a fever of over 100 , he probably has more than a simple cold. He may even be in the early stage of some serious infection. In such a case more specific measures are necessary. First, a white blood cell count should be done. Should it be elevated a bacterial infection is likely. This being the case, an antibacterial agent of some sort should be used. You could start with a sulfonamide, since it is cheap and can be taken by mouth. If your patient is improved in twenty-four hours, well and good. If not, penicillin should be added—and *don't forget to ask your patient whether or not he is sensitive to these drugs before giving them.* You may save him a serious reaction. If in another twenty-four hours things are not better, then it is best to use the hospital, where laboratory and x-ray facilities are available. Should the white count be normal or low, a virus is more likely to be the infecting agent. In this case you are justified in watchful waiting for a short time, particularly if the blood smear shows an increase in the lymphocytes.

Should definite pneumonia be present, as evidenced by crackles in the chest, it would ordinarily be best to send the patient to a hospital where detailed work can be done. However, should the patient be only moderately ill with a temperature under 102°,

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†Rochester General Hospital, Rochester, N. Y.

and should individual circumstances dictate it, a twenty-four hour trial of antibacterial treatment may be carried out in the home. If at the end of this trial period there is no improvement, then you should send the sick man to the hospital.

In the hospital, blood and sputum cultures should be taken immediately and a white count and differential done. The results of the cultures will not be known for at least many hours, so treatment must be based on the condition of the patient and the white count and smear. If the count is high and mainly neutrophils, a sulfonamide or penicillin or both are indicated. If the count is normal or low and the differential normal or with an increase in lymphocytes, then one would be inclined to try aureomycin or terramycin. It is best to avoid streptomycin without definite indications for its use because any lung infection may turn out to be tuberculosis. In such a case the streptomycin might mask the true nature of the disease and cause untold trouble for the future of the patient. As time passes, attention should be paid to the results of the cultures, and treatment should be guided by the type of organisms found and its sensitivity to the various antibacterial agents. If the patient does not do well, cultures and sensivity tests should be repeated so as to detect changes in the bacterial agents and their response to treatment.

The accurate detection of the viral and rickettsial pneumonias requires equipment so extensive and expensive and is so time-consuming that it is in general neither practicable nor possible. Occasionally, the history of contact with birds or the skinning of cattle will give you a clue to possible psittacosis or Q-fever. Otherwise one can only judge from the clinical picture and the white count and act accordingly.

One thing should be said. Let us assume you have a patient with definite pneumonia. He either has crackles in his chest or a positive chest x-ray film or both. You give him treatment and he promptly gets well. This goes on either at home or in the hospital. Don't forget to have a chest film taken at the time that he is apparently well to make sure that his lungs are completely clear in addition to his apparent clinical recovery. If you do not do this, you will miss an occasional case of tuberculosis and an occasional case of cancer. Always follow a patient with lung disease with the x-ray film until it is clear.

TREATMENT OF CARCINOMA OF THE SKIN*

PRELIMINARY STATISTICAL REVIEW

CHARLES I. BLACK, M. D.
HENRY W. JOLLY, JR., M. D.
BATON ROUGE

Carcinoma of the skin in the southern part of the United States, and particularly in Louisiana, is a tremendously important problem which presents itself to all physicians, and particularly to the dermatologists. Some of the import of this disease can be understood when it is realized that 6 per cent of all deaths from carcinoma are due to carcinoma of the skin and mucous membranes, and that in the United States alone, there are upwards of 3,000 deaths per year from skin carcinoma.[1]

Carcinoma of the skin is a complex problem. In spite of all the known factors, there stands the large unknown factor which is common to the etiology of all malignancy. Cipollaro[1] has stressed the intrinsic factor and the extrinsic factors in the production of skin malignancy. The former takes into account the inherent elements within the cell itself, and the latter the environmental factors such as age, sex, race, type of skin, local irritation, occupation, exposure to sun, and nutrition. A detailed discussion of these factors would be too lengthy for a paper such as this and could add little to what has been written. However, in the South and in Louisiana it seems apropos to stress the role of sunshine. Wilson[2] showed that carcinoma of the skin in Dallas and Fort Worth is four times as common as in Detroit, with nine cities between these two points showing decreasing incidence the further north their

*Presented at the Seventy-third Annual Meeting of the Louisiana State Medical Society, New Orleans, Louisiana, May 9, 1953.

location. In all our observations, we have been markedly impressed by the amount of exposure to sunlight and the types of skin possessed by the patient. It seems unquestioned that the greatest chance of skin malignancy occurs in that type of individual who possesses red hair, freckled skin, and whose job or hobby takes him out of doors.

A great deal of time is spent with each of our patients, both at the conclusion of treatment and at follow-up visits stressing the injurious role of sunshine. If their job, or hobby, requires them to be out of doors, sun protective creams are strongly advised. Prophylactic work along these same lines can be done with the patients presenting themselves for entirely different dermatological reasons. It seems reasonable that a great number of carcinomata of the skin could be thereby prevented or their development greatly retarded. Andrews and Barnes[3] list the following as the prophylaxis of carcinoma of the skin: (a) Avoidance of habitual excessive exposure to sunlight, especially by persons who have fair skin; (b) maintenance of a healthy, youthful skin by adequate nutrition, diet, and good general health; (c) early and prophylactic removal of precancerous lesions.

METHODS OF TREATMENT

We shall attempt an evaluation of the different modes of therapy, but realize that it is difficult or impossible to compare methods with complete satisfaction because in no two lesions are all the circumstances precisely the same.[4]

1. *Surgery.*—Adequate surgical excision should render results equal to any method of treatment; however, there are in our opinion certain inherent drawbacks to the surgical excision of all carcinomata of the skin. Certain areas, such as the ala nasi, eyelids, and ears would require in most instances that the procedure be followed by plastic surgery. In all instances, hospitalization is desirable. One area that we feel deserves special mention in surgical consideration is the inner canthus of the eye, in which surgery may cause severance of the lacrimal duct. There are some cases in which we feel that surgical removal of carcinoma is superior—such as the dorsa of the hands where the lack of soft tissue beneath the skin may be so marked in the elderly as to afford insufficient soft tissue absorption of x-ray before the tendons or bones are reached, giving these structures a dangerously high dosage. In cases on whom previous irradiation has been used, and particularly if the amount of irradiation is unknown, surgical excision is advised. If the patient requires surgery for some other reason such as a neck dissection, it seems ridiculous to submit him to irradiation of the primary lesion and surgical excision of the secondary lesion.

2. *Cauterization.*—By this we mean any cauterization method, be it electrosurgical or actual cautery, not chemical, which we shall discuss below. We are primarily concerned with the cure of the patient, but both the doctor and the patient should be interested in the cosmetic result. In our opinion, this method of treatment affords on the whole, the least acceptable cosmetic result. The scars of cautery are as bad as the worst radiation scars, and the supposed cancericidal action of heat does nothing but give the operator a false sense of security.[5] Medically speaking, one can never be sure in this method that sufficient depth or width has been attained to prevent the leaving of a deep or marginal islet of carcinomatous cells. Several of the cases reported in this series were recurrences after electrosurgery.

3. *Chemosurgery.* — As advocated by Mohs[6] seems in our opinion very definitely to have its place in the treatment of malignancies which may be extensive or recurrent, such as those which are too extensive for surgery or have recurred after irradiation. This method consists of rendering the skin permeable with dichloracetic acid, the application of a zinc chloride paste, and scalpel excision with complete microscopic control. In the words of Mohs[6] the disadvantages are the necessity for special training, special facilities and assistants, and the method is time consuming and painful; but these disadvantages are far outweighed in the areas where there is a poor prognosis.

4. *Chemical cauterization.*—with arsenic paste, etc., is mentioned only to condemn its use.

5. *X-ray and radium.*—For all practical purposes, what we say about x-ray applies to radium, but since our treatment of choice is x-ray and the series of cases to be reported were all treated with x-ray, we will dwell on that point and not go into the mechanics or dosages of radium.

X-ray is our treatment of choice for the following reasons: (a) It is an ambulatory treatment and can be given on an out-patient status. (b) No anesthesia is required. (c) No pain on administration. (d) Within reason in skin work, any depth can be reached by either adjusting the factors or by adding filtration. (e) There is no appreciable loss of tissue. (f) The cosmetic result is very good in the majority of cases. In some cases, we admit that an atrophic scar is left, but these, in any disfiguring proportions are very minimal in number as opposed to a great many which are hardly discernible. Occasionally, depigmentation or peripheral hyperpigmentation occurs. (g) Medically speaking, we feel that when adequately given, the results with x-ray can equal those of any other method of treatment. (h) Treatment over the ala nasi, eyelids and ears, which sites have been contraindications to therapy with x-ray by other authors, has in our hands proven entirely safe and very satisfactory. We do not feel that we have caused any appreciable damage to the underlying cartilage and have been impressed with the almost uniform lack of atrophy in the skin. (i) The cases that we have treated near the inner canthus have all resulted in perfectly functioning lacrimal ducts.

It must be admitted that there are certain cases in which irradiation cannot be used. In the first instance, we do not use irradiation in any case in which previous irradiation has been given to the same area unless we gave that irradiation or feel that the source of information is accurate as to the dosage. In other cases, we feel that eventually a certain size of lesion is the limit and that lesions above that size cut down so much in the total safe dose, that this dose would be insufficient in quantity to kill the carcinomatous tissue. In other words, a lesion over 5 cm. in diameter would usually reduce the total dosage to a point at which the carcinomatous tissue as well as the normal tissue would survive. Certain other disadvantages to x-ray have been mentioned in the above discussion of treatment.

7. *Combined methods of treatment.*—We should like to make a plea for a single method of treatment of carcinoma of the skin. Temporarily disregarding the individual disadvantages, any method of treatment can cure a malignant lesion of the skin if adequately and thoroughly carried out. It seems to us that combining methods is unnecessary when either of the methods can cure the lesion alone. Halfway curing the lesion with one method and halfway curing it with a second method seems inferior to completing the job with one method. There is no disadvantage in electrocoagulation or dessication of the lesion before roentgen ray therapy.[7]

PROPOSED METHOD OF TREATMENT

Except in cases presenting very extenuating circumstances we insist upon a biopsy as the first step in handling each case and prefer not starting treatment until it has been reported. We do not believe that incision into malignant tissue plays any part in precipitation of metastases. One of the many authors to stress this point also was Michelson.[4] However, because of the controversy, we try to avoid the procedure in obvious melanomata, which condition is not considered in the realm of this paper. We have found that the 2 mm. punch biopsy excision is adequate both from the standpoint of little or no discomfort without anesthesia, and for the pathological differentiation between basal and squamous types. (Figures 1 and 2). The reason for preferring to wait for the biopsy is because we can make an effort to give a slightly higher dose to squamous or mixed cell lesions than we do to a basal cell lesion, because it seems that this is the consensus of opinion of authors on the subject. Macomb, at quoted by Pack[8] states that at least 12.5

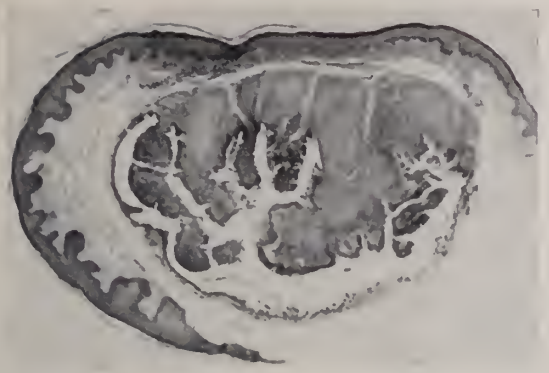

Figure 1.—Squamous cell carcinoma—2 mm. punch biopsy.

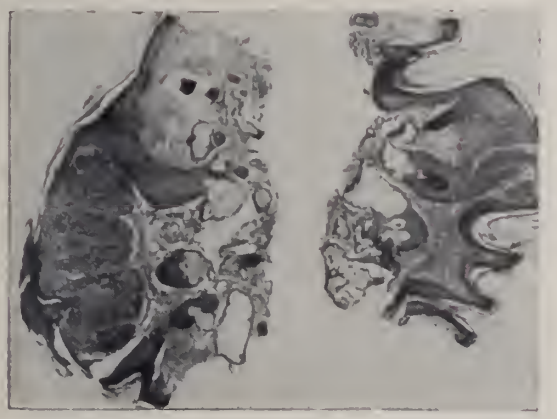

Figure 2.—Basal cell carcinoma, cystic, adnexal origin—2 mm. punch biopsy.

threshold erythema doses are necessary to satisfactorily regress a lesion. We will not here attempt to give dosage schedules as these will be obvious from the tables, but we never give less than 3500 r for the large ports, and do give up to 6000 r for the small ports. In general, the larger the port, the smaller the total dose.

We never treat an area less than 1.5 cm. in diameter, as less would not allow for 0.5 cm. free margin around the lesion, and an absolute minimum of 0.5 cm. of free tissue, as determined by observation and palpation, is insisted upon in every case. Where there is any doubt, a larger zone of apparent free tissue is irradiated. In the area where the lower two-thirds of the nose joins the cheek, we believe special consideration should be given to this margin of safety as the anatomical contours lend themselves to the development of a so-called "iceberg" type lesion where the subepidermal extension may be considerably greater in proportion to the visable lesion than in other areas. Therefore, in this area, we do not hesitate to irradiate a larger so-called free margin of skin.

It is our policy to fractionate all dosages and prefer ten fractionations following the method of Coutard. For some unusual circumstances, we sometimes use only five fractionations, but the total dose remains the same as predetermined regardless of the number of fractionations. The usual procedure is to give ten daily doses—each dose one-tenth of the total desired dose. We do not object to stretching this out to where the total dose is delivered in ten fractions in fourteen to eighteen days.

Shielding is a simple procedure and should be carried out with great care so as to protect as much as possible all underlying normal structures. When treating the lip or the midcheeks, lead sheeting, larger in size than the field to be irradiated is placed inside the mouth to protect the gums and tongue. When treating the ala nasi, similar shielding is done inside the nares to protect the septum if the lesion or part of the irradiated field lies over the cartilaginous portion of the nose. If the lesion or any of the irradiated field overlies the conjunctival sac, a lead shield is placed between the lids and the eyeball. If the lesion is on the ear, two approaches are possible: If on the anterior aspect of the ear, the ear is taped back against the scalp with a shield between the ear and the scalp; and secondly, if the lesion is on the posterior aspect of the ear, the ear is folded forward and taped in position with a shield between it and the preauricular area.

In the main, as will be seen in the various tables, the overwhelming majority of our cases are treated with 85 KV, 5 ma, no filter, 15.5 cm. TSD and the half value layer is .88 mm Al. If the lesion is particularly elevated or particularly deep, 100 KV with the same other factors is used, having a half value layer of 1 mm. Al. In very rare instances, 1 mm. Al. has been added for greater penetration.

STATISTICAL REVIEW

A preliminary statistical review is presented, to which we intend to add supple-

mentary reviews. We feel that periodic inventory of results and data will lead us to a better care of what we feel is a large and important problem.

Presented are 243 consecutively examined patients with an aggregate total of 302 malignant lesions. Of the total, 147 were males, and 96 were females, the peak of each sex's age incidence being 50-59 (Table 1), with the exception that in females there

TABLE 1
AGE AND SEX DISTRIBUTION

	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	Total
Male	5	6	34	44	34	19	5	....	147
Female	4	11	16	21	15	21	7	1	96
Total	9	17	50	65	49	40	12	1	243

was an equal number in the 70-79 age group.

One hundred and forty-one of the 302 lesions were diagnosed histopathologically as basal cell carcinoma. Fifty-nine were squamous cell carcinoma and 10 were basosquamous carcinoma. This is summarized in Table 2. We agree that the ideal classification of carcinoma of the skin should be in accord with that advocated by Sachs[9] of (a) basal cell, (b) prickle cell, and (c) anaplastic; but for practical purposes, we have limited our series to basal cell, squamous cell, and mixed cell types.

Ninety-two were treated without biopsy. A few of these patients refused biopsy procedure. Others of this group were the very aged, but we believe that in all, these 92 lesions were clinically without doubt as to their malignancy.

Table 3 summarizes the follow-up of these patients.

In Table 2 are also listed the sites as we differentiated them and the number of each type of lesion is indicated for each site. Most of the sites are self-explanatory with the following exceptions. As classified, the forehead includes everything from the hairline down to and including eyebrows and laterally to the temples. The infraorbital region was above the level of the malar eminence, but not including the tarsal plate of the lower lid. The cheek includes everything below the malar region down to and including the mandibular area, but excluding the immediate preauricular area and the sulcus at the junction of the cheek and the nose. We have specifically made an issue of the site called the nose-cheek sulcus because we feel that this is a site demanding close attention in the treatment of cutaneous malignancy, as stated previously. There were no lesions on the upper vermillion border, and the lesions recorded were all on

TABLE 2
SITES AND PATHOLOGICAL CLASSIFICATIONS

Site	Basal Cell	Squamous Cell	Mixed Cell	Not Differentiated Histopathologically	Total
Scalp	2	1	....	1	4
Forehead	6	3	....	3	12
Temple	7	4	1	7	19
Preauricular	7	1	....	7	15
Ear	6	5	2	7	20
Neck	8	2	1	3	14
Inner canthus	9	....	....	2	11
Outer canthus	2	....	....	1	3
Upper eyelid	2	....	....	....	2
Lower eyelid	1	....	....	....	1
Infraorbital	9	1	1	4	15
Cheek	22	9	....	15	46
Nose-Cheek	16	2	1	4	23
Ala nasi	9	5	2	5	21
Dorsum nose	16	5	1	15	37
Inside nose	....	1	....	....	1
Upper lip	5	1	....	5	11
Lower lip	....	5	....	2	7
Buccal mucosa	....	2	....	....	2
Nasolabial	2	....	....	2	4
Chin	4	....	....	7	11
Trunk	6	4	1	....	11
Extremities	2	8	....	2	12
Totals	141	59	10	92	302

TABLE 3
FOLLOW-UP

	Number of Lesions
Less Than One Year	83
1 year	66
2 year	49
3 year	43
4 year	25
5 year	14
6 year	3
Total	283

the skin of the upper lip; whereas the lesions recorded on the lower lip were all on the vermillion border. On the ear, no distinction as to site is held important as in all cases, treatment is over cartilage, which, to us, seems the most important factor. Because other authors have included the postauricular area in the scalp, we feel that it is necessary to state that in this series it is considered as neck. The cases listed as being on the extremities were all on the upper extremities except for one which was on the leg.

Table 4 is a tabular distribution of treatment dosage as compared to the size of the field. The great majority of the lesions were given between 4,000 to 5,000 r with

TABLE 4
SIZE OF TREATED FIELDS
(85 KV, 5 MA. NO FILTER, 15.5 TSD)

Dosage in Roentgen Units	1.5 cm.	2 cm.	3 cm.
3500	....	1	2
3700	1	....	1
4000	6	34	14
4500	41	82	10
4850	1	1	....
5000	18	26	....

Twenty other cases were treated with other factors or irregular sized fields and are not tabulated for lack of space.

a 2 cm. field. All cases listed in Table 4 were treated with 85 KV, 5 ma, no added filtration, 15.5 cm. TSD (except two utilizing 25 cm TSD) with a half value layer of .88 mm. Al. Six cases not listed in Table 4, but included in the rest of the statistics, were treated with 100 KV, 5 ma, 15.5 cm. TSD (one case with 25 cm. TSD) no filtration (except one in which 1 mm. Al. was added).

It is noteworthy in this series that of these, only one patient was negro. This patient was a very light colored, freckled Negro with red hair.

The overwhelming majority of the lesions treated were given ten fractional doses. One or two cases were treated in three doses; a few were given five fractions and one was treated with a single dose. Morbidity of the patient from other reasons and distance traveled are the only reasons for reducing the fraction below ten. These conditions, however, are waived in favor of ten fractions whenever cartilage is in the field of irradiation.

As stated previously, no patient was irradiated who had had previous irradiation, unless given by us or by an accurate source. The only cases falling into this category were a few receiving 800 to 900 r to what were considered premalignant lesions which recurred and proved then to be malignant by biopsy. No cases were given irradiation who had had x-ray to large areas such as for acne. In this category are two cases:

1. That of a 42 year old male who had a nevus flammeus of the chin and neck treated with x-ray as an infant. Under our observation he has developed 8 basal cell carcinomata (the first 2 of which were proven by biopsy) and all were treated with electrosurgery. (2) The second case of previous wide field irradiation was a 36 year old female with a basal cell carcinoma by biopsy in the interscapular area, exactly in the midline. She had had considerable but unknown amounts of x-ray to the back for acne and this likely was a point of overlapping of treatment fields. Under pathological control, this lesion was completely excised.

Fourteen of the cases were excised by us, or referred to surgeons for excision. Two patients (one of which was the man with the nevus flammeus) had their lesions electrosurgically destroyed.

To our knowledge, there have been but three lesions to recur. The first case was a 70 year old female with a lesion in the nose-cheek area. An irregular field measuring approximately 4 by 3 cm. was given 3300 r in ten fractions (85 KV, 5 ma, 15.5 cm. TSD). She had a basal cell carcinoma by biopsy and was treated in August 1948. In 1952, a small nodular recurrence appeared at the lower border which was subsequently excised. A review of the record by us indicates that an inadequate margin was used in this area.

The second recurrence was a 34 year old male with a basal cell carcinoma proven by

biopsy in the nose-cheek area to which 4500 r. (85 KV, 5 ma, 15.5 cm. TSD) was given in ten fractions to a 1.5 cm. area in August 1950. Two years later, a small papule was noted in the center of the irradiated field which was suspicious of a recurrence. A 2 mm. punch biopsy was taken and reported as "basal cell carcinoma with complete removal." In a review of this case, we feel that the concavity of the area increased the TSD in the center of the field so that an inadequate dose was delivered to the center of the field.

The third was a 71 year old male with a basal cell carcinoma on the ala nasi treated in October 1950. In April 1951, he was examined and found to have a perfect result. In April 1953, a recurrence was apparent and a biopsy reported as basal cell carcinoma. The initial treatment record shows a 1.5 cm. lesion and a treatment field of 3 cm. receiving 3700 r in ten fractions, utilizing 85 KV, 5 ma, no filtration and 15.5 TSD. Analysis of this case reveals no reason for recurrence.

Two cases are included in this series who had surgical excision and were referred to us for x-ray therapy because their laboratory reports were "incomplete excision of basal cell carcinoma." One was on the forehead and one was in the nose-cheek sulcus. Two cases are included that had had previous electrodessication. One was in the nose-cheek sulcus, and when first seen by us a year after electrodessication, was a typical basal cell carcinoma which unfortunately was not biopsied, but was treated with irradiation and has remained clear for three years. The other case previously receiving electrodessication was on the upper eyelid. This is a young man with a very fair complexion who has subsequently developed other basal cell carcinomata proven by biopsy and satisfactorily treated by irradiation.

SUMMARY AND CONCLUSIONS

1. A brief discussion of carcinoma of the skin has been presented;

2. The various modes of treatment of carcinoma of the skin are discussed along with their advantages, disadvantages, indications and contraindications. The overwhelming majority of our cases have been treated with x-radiation alone. However, we have tried at all times to remember that x-radiation is not the only method of treatment, and wherever there have been disadvantages or contraindications to this treatment, other methods have been employed;

3. A preliminary statistical review of carcinoma of the skin is presented including 243 patients, 302 lesions, and 3 recurrences. It is our intention to supplement this report at reasonable, periodic intervals, thereby enlarging the series and increasing proportionately the length of follow-up of cases.

REFERENCES

1. Cipollaro, Anthony C.: Cancer of the skin, Pennsylvania M. J. 51:180, (Nov.) 1947.
2. Wilson, Wesley W.: Cancer of the skin in Florida. J. Florida M. A. 36:619, (Apr.) 1950.
3. Andrews, Geo. C., and Barnes, Maurice C.: Modern treatment of skin cancer, New York J. Med. 42:986, (May 15), 1942.
4. Michelson, Henry E.: Cutaneous cancer. J. A. M. A., 136:683, (Mar. 6) 1948.
5. Eberhardt, Theodore P.: Treatment of epithelioma of the skin, Radiology 49:620, (Nov.) 1947.
6. Mohs, Frederic E.: Chemo surgery in cutaneous malignancy, Calif. Med., 71:173, (Sept.) 1949.
7. Harris, William: Cutaneous cancer from the point of view of the radiologist. Arch. Derm. & Syph., 53:586, (June) 1946.
8. Pack, George T.: Treatment of cutaneous epithelioma, Arch. Derm. & Syph., 53:576, (June) 1946.
9. Sacks, Wilbert: Histopathology of cutaneous cancer, Arch. Derm. & Syph., 53:599, (June) 1946.

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DRUG REACTIONS OF IMPORTANCE IN DAILY PRACTICE*

J. DUDLEY YOUMAN, JR., M. D.
SHREVEPORT

We now have at our command many powerful drugs for the treatment of our patients. With the advent and use of many of these medicinals, reactions of varying severity began to appear in much greater proportions than we had seen in the past. Therefore, it has become necessary for us to be familiar with and always to keep in mind the potential dangers of these drugs. If we do not keep this in mind, some of our patients are made more ill by the drugs we use than by the disease we are treating. I think all of us have seen patients who have had mild colds for which they have been

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given penicillin and made much more uncomfortable, and at times much more ill from the penicillin reaction than from the original illness.

When one embarks on a dissertation of this kind, one must guard against overemphasis or becoming overzealous. In most instances, the reactions reported in the literature occur in but a fraction of the cases in which the drug is used. However, even these few reactions, if the consequences are serious or at times fatal, must be taken seriously. Therefore, drugs causing such reactions must be known to us and the diseases in which we use them must be weighed against the possibility, even though remote, of serious disaster which may befall our patient.

In going through the literature there was no question but that there were more reports on reactions to penicillin than to any other drug.

Most of the reactions to penicillin[1-3] have not been serious. They may consist of contact dermatitis from use of the ointment, solutions, inhalators, aerosols, and troches. Systemic reactions may be macular, scarlatiniform, erythema multiforme like, or "phytid" reactions. The most frequent reaction to penicillin is the delayed anaphylactic type. This manifests itself as urticaria or serum sickness type reactions that occur in seven to thirty days after penicillin is given.

URTICARIAL REACTIONS

Most urticarial reactions are mild, are controlled by antihistamines and last a few days to two weeks. However a few of the urticarial reactions are quite severe, causing great discomfort, particularly the urticarial lesions in the palms and soles. The treatment of an occasional one of these cases in the past created a difficult problem as it failed to respond to any medication until ACTH and cortisone came along.

It must be remembered that the medicines used in treatment of the urticarial and serum sickness type reactions are not curative. They only relieve symptoms or suppress the disease. Therefore, treatment must be continued long enough for the necessary immunologic processes to occur. If they are stopped before this time, there is a prompt recurrence of symptoms.

If the antihistamines are used, it is often necessary to try several before an effective one for that particular patient is found. An effective antihistamine usually relieves itching in thirty minutes. If after several doses itching is not relieved, another antihistamine should be tried, as the probability is the one being used will not be effective.

ACTH and cortisone are used for the more severe reactions. They are particularly helpful in the serum sickness type reactions.

As mentioned above, the average urticarial reaction lasts a few days to two weeks. There are a few which last weeks or many months, seeming to finally burn themselves out. Some of these cases are followed by dermagraphism which may last for months or longer.

The allergic reactions to penicillin discussed for the most part are not severe. However a few reports of a more serious nature have been seen in the literature, ranging from purpura with visceral involvement, and exfoliative dermatitis with fatal termination.

ANAPHYLACTIC SHOCK

A reaction about which we have heard very little is immediate anaphylactic shock which is dangerous and at time fatal. It is very important that we know about this reaction.

Waldbott[4] was the first to report an anaphylactic death from penicillin. His patient was a 39 year old asthmatic woman who was given 50,000 units of penicillin, intramuscularly, at home by a nurse. Within five seconds the patient complained of a strange taste in her mouth and swelling and tightness in the nose and throat. Her face became flushed and cyanotic and generalized pruritis developed. Collapse and death followed within a very short time. The patient had received 3 courses of penicillin within the preceding four months without definite ill effects.

Burleson[5] reported a case in which injection of 200,000 units of sodium penicillin G

with ½ cc. of 1 per cent procaine was followed in fifteen minutes by severe prostration, dyspnea, rapid pulse, hypotension of 50/20, flushing of the skin, swelling of the eyelids and tongue. Acute symptoms responded in ten minutes to 4 cc. of benadryl by vein. Complete recovery occurred in twenty-four hours. Intracutaneous skin tests done forty-eight hours later showed a positive immediate wheal type reaction to penicillin, and a negative reaction to procaine.

Everett[6] reports anaphylactic reactions in two patients in which aqueous crystalline penicillin G solution was instilled into the maxillary sinuses. The first patient had had 16 previous antral instillations of penicillin and 14 intramuscular injections of the antibiotic. The reaction in the first patient consisted in flushing of the face, choking, wheezing, dyspnea, rapid drop in blood pressure and pulse rate, profuse perspiration, and loss of consciousness. He was successfully treated with 25 mgm. of benadryl and 100 mgm. of aminophyllin orally, and with caffeine sodium benzoate intramuscularly. Three months later an intramuscular injection of procaine penicillin in peanut oil was followed by a similar episode. The second patient had also had penicillin antral instillations and injections previously. Within a few seconds after aqueous crystalline penicillin G solution was instilled into his antrum, the entire skin became red and edematous and intensely pruritic. Severe asthma appeared (he was an asthmatic). Treatment with pyribenzamine and epinephrine gave prompt relief.

Siegal[7] reports three cases of anaphylactic shock from penicillin, one of which was fatal. The fatal case was a 67 year old woman with infectious asthma. She had been given repeated injections of penicillin without any sign of intolerance. She had been studied thoroughly and found to be in good health except for her asthma. She had an attack of rather severe asthma. She was given 300,000 units of aqueous procaine penicillin intramuscularly. Within thirty seconds she complained of a strange taste in her mouth, tightness in her chest, and inability to breathe. Before epinephrine could be given, she became extremely cyanotic and died. His other two cases were in resident physicians. Both had had previous penicillin with no ill effects. The reactions occurred in thirty seconds to three minutes, were severe and shock-like, but responded to epinephrine and pyribenzamine.

Mayer et al[8] reported 6 more cases of anaphylactic shock from penicillin, one of which was fatal. This fatal case was a 47 year old syphilitic who had had three courses of penicillin treatment consisting of 2½ million, 5 million, and 7 million units respectively, with no ill effects. In November 1951, he took one penicillin troche and fainted immediately, but recovered spontaneously. In January 1952, he was given 300,000 units of aqueous procaine penicillin intramuscularly. In a few minutes he collapsed into coma and died a few minutes later.

Curphey[9] presented two cases of anaphylaxis following penicillin. One patient died in five minutes after receiving aqueous procaine penicillin and the other died in ten minutes after penicillin and streptomycin combined was given.

Despite the rarity of dangerous reactions to penicillin, it is evident from these experiences that we must choose more carefully the patients in whom it is used.

PREVENTION

In discussing prevention, Siegel makes a number of suggestions. Because antibiotics are not specific, they should not be used in minor respiratory infections. In mild or moderate infections he suggests oral penicillin tablets in 200,000 to 400,000 unit dosage three times daily. They are effective and while sensitization may occur, anaphylactic reactions will be extremely rare, and anaphylactic deaths possibly will be entirely prevented, as anaphylactic death almost never occurs after the oral administration of a drug.

A history of previous penicillin sensitivity must be sought after. In doing this remember that the common delayed anaphylactic reactions occur typically after an incubation period of seven to thirty days and

the symptoms are urticaria or those seen in serum sickness. For the most part this sensitization is temporary and many of these patients will tolerate subsequent penicillin with either no reaction or a recurrence of the delayed anaphylactic type reaction.

In sharp contrast, the accelerated and immediate reactions come on within a matter of minutes or hours, or at most a day or two after penicillin. Reactions of this type tend to be dangerous and severe. Even if they are mild, their timing should ever warn us that penicillin sensitivity is present and anaphylactic shock a distinct probability. The exception to this is the "id" type reaction with its papulovesicular dermatitis of the hands, feet, and groin, which may come on in twenty-four hours after injections. This type reaction is apparently not indicative of an anaphylactic danger.

In addition to the immediate anaphylactic type reaction, other severe reactions such as exfoliative dermatitis, purpuric reactions, and persons having more than one reaction to penicillin should be handled cautiously with respect to more penicillin.

Let it be emphasized, however, that in the cases cited above most had had no previous reaction to penicillin, and therefore, the absence of history of a previous reaction by no means precludes the possibility of an anaphylactic reaction.

The history of allergy and particularly asthma must be sought. Four of the five fatal cases were asthmatics.

Anaphylactic shock has been seen after single injections of penicillin only in patients intermittently treated and not during a course of continuous therapy. This corresponds to experience with animal anaphylaxis where adequate spacing of antigen injections greatly enhances the likelihood of inducing shock.

It need not be feared in persons having no previous contact with the drug.

From the cases reviewed, immediate anaphylactic sensitivity was associated in most of the cases with a positive immediate wheal type skin test reaction.

Thus in patients who had had penicillin repeatedly in the past, in those with a previous reaction to penicillin, particularly if severe, and in atopic persons, particularly those with asthma, scratch testing with freshly prepared crystalline penicillin G in distilled water, 10,000 units per cc. and read in twenty minutes may be of help. However, Siegel emphasizes strongly that negative immediate wheal type skin tests do not rule out penicillin allergy or anaphylaxis, and that therefore it is safer to avoid penicillin therapy in those with a history of immediate or accelerated reactions to penicillin, despite negative skin tests.

In cases with a strong suspicion of anaphylaxis to penicillin where the drug is urgently needed, one may try beginning with 50 to 100 units subcutaneously in the arm, increasing the dose every thirty to sixty minutes in the hope of arriving at a therapeutic level. This should be done only in a hospital and with a syringe filled with epinephrine and another with an antihistamine along with a tourniquet close at hand.

When injecting penicillin, one must be sure a blood vessel has not been entered, by preliminary aspiration. If possible, the first dose of a series should be given in the arm, so if necessary a tourniquet may be used above the site of injection.

Neo-penil[10] (penethamate hydroidide), a penicillin preparation with special affinity for lung tissue, can cause severe anaphylactic reactions. In the past six months, 14 severe anaphylactoid reactions, including 3 that resulted in death, have followed the injection of neo-penil. The anaphylactoid reaction is of the same type that occurs from other types of penicillin, though convulsions occurred in 11 of the 14 patients. In 9 of these patients this reaction occurred almost immediately or within five minutes after injection. In one patient convulsive seizures began ten hours after injection of the drug.

REACTIONS TO CHLOROMYCETIN

Reactions to chloromycetin (chloramphenicol) have, for the most part, been mild, being chiefly gastrointestinal and pruritis ani and vulval. However, reports of transient depression of the formed elements of the blood, involving red cells, white cells,

and platelets have appeared. This is a very uncommon reaction and the blood of these patients returns to normal as soon as therapy with chloromycetin is stopped. No permanent deleterious effect was observed.

A more serious reaction from chloromycetin has been encountered, the production of a true aplastic anemia with several deaths reported. This anemia has occurred in patients who have previously received one or more courses of chloromycetin without untoward effect. When the drug was subsequently administered, even in small doses, the aplastic anemia has appeared.

Even though only a few deaths have been reported from aplastic anemia following chloromycetin, it would seem that caution should be used in prescribing this drug and that its use should be limited to the treatment of patients with typhoid or serious infections for which no other therapy is available, until this type of reaction from chloromycetin is further clarified.

REACTIONS FROM BUTAZOLIDIN

Butazolidin (phenylbutazone), a relatively new antirheumatic drug, causes undesirable side reactions in 25 to 33 per cent of the cases in which it is used. The toxic reactions described have been edema, nausea, abdominal discomfort, reactivation of latent peptic ulcer, anemia, vertigo, and skin eruptions. In about 12 per cent of the cases side reactions made stoppage of the drug necessary.

Butazolidin is related chemically to aminopyrine (pyramidon); so toxic hematologic reactions from its use have been anticipated. Only recently have reports of agranulocytosis appeared in the literature following the use of butazolidin. Six cases have been reported so far, several of whom became quite ill from the agranulocytosis. There has been one death. All of the others have responded to antibiotics and ACTH. However, with widespread use of this drug, more cases of agranulocytosis will occur. To avoid fatalities Bershof[12] recommends that weekly blood counts should be done.

REACTIONS IN TOPICAL THERAPY

Of considerable practical importance is the choice of the proper drug to use in topical therapy of pyogenic infections of the skin. We have many effective ones, but some of these are high sensitizers and should not be used.

Sulfathiazole 5 per cent ointment is good, but it causes sensitization in 5 per cent of the cases in which it is used. When sensitized, the patient usually reacts again if the drug is applied locally or taken internally. These skin reactions may be severe and may last for months. For these reasons use of sulfonamides for local therapy is not advised.

Penicillin ointment should not be used, except occasionally, for the same reason.

Furacin has caused sensitivity with resulting contact dermatitis in many patients. The majority of dermatologists have discontinued use of this drug.

Aureomycin, terramycin, and chloromycetin ointments are very effective against pyogenic infections of the skin. Since they are important antibiotics for the treatment of serious diseases, the danger of the development of sensitization should be avoided when treating minor conditions. These drugs are applied locally if other, usually very effective drugs, fail.

The drugs advocated by most dermatologists for local application for pyogenic infections are ointments or solutions containing bacitracin, neomycin, polymixin, or a combination of these. They are very effective, rarely cause sensitization, and if they do, no damage is done as these drugs are rarely used in the treatment of systemic infections.

COMMENT

In the diagnosis of reactions to drugs, a high degree of suspicion is necessary. In any untoward reaction, drugs should always be thought of as a cause.

In taking the history, which may be valueless, repeated questions should be included regarding ingestion, injection, or application of any medication. It is important that specific questions be asked regarding tonics, laxatives, patent medicine, vitamins, cold medicines, stomach medicines, sedatives, headache medicines, etc.

In urticaria, a practical point is to get the history of the use of penicillin in any form, ointment, troche, nose drops, orally, parenterally, for the month preceding the eruption. I have had several patients whom persistent questioning jogged into remembering that they had sucked a penicillin troche or two for a cold three weeks previously.

It must be remembered that in some cases the drug reaction may appear soon after the drug is used; but, in many cases, sensitization may result only after the drug has been administered over a period of weeks, months, or even years.

The confirmation of the diagnosis rests on three criteria:

1. Evidence that the drug has been used at a time adequate for causing the eruption;
2. Disappearance of the eruption when the drug is withdrawn;
3. Recurrence following further use of the drug.

This, of course, can rarely be done in private practice.

Skin tests are of little value unless the reaction is eczematous in nature, when patch tests are of value. An exception to this is the use of intradermal or scratch tests in the immediate anaphylactic type of reaction. It is at times positive as mentioned under the discussion of the immediate anaphylactic reactions to penicillin.

In treatment of drug reactions, mild cases require only discontinuation of the offending drug and simple antipruritic measures such as calamine lotion and colloid baths. Special care is usually necessary for exfoliative or generalized bullous eruptions or other serious drug reactions. The administration of ACTH or cortisone in some of the severe reactions may prove life saving.

If a drug reaction is suspected, the safest procedure is to discontinue all medication, except those medicaments which seem essential to save life, and if possible, suitable substitution should be made.

REFERENCES

1. Templeton, H. J., Lunford, C. J., and Allington, H. V.: Cutaneous reactions to penicillin, Arch. Derm. & Syph. 56:325, 1947.
2. Gelfand, M. L.: Allergic Reactions to Penicillin, New York State J. Med. 47:2707, 1947.
3. Peck, S. M., Siegal, S., Glick, A. W., and Kurtin, A.: Clinical problems in penicillin sensitivity, J. A. M. A. 138:631, 1948.
4. Waldbott, G. L.: Anaphylactic death from penicillin, J. A. M. A. 139:526, 1949.
5. Burleson, R. J.: Anaphylactoid shock due to penicillin, Report of a case, J. A. M. A. 142:562, 1950.
6. Everett, R.: Anaphylactic reactions from local use of penicillin, J. A. M. A. 146:1314, 1951.
7. Siegal, S., Steinhardt, R. W., Gerber, R.: Fatal and near-fatal penicillin anaphylaxis, J. Allergy, 24:1, 1953.
8. Mayer, P. S. *et al.*: Penicillin anaphylaxis, J. A. M. A. 151:351, 1953.
9. Editorial: Fatal Allergic Reactions to Penicillin, J. Allergy, 23:383, 1953.
10. Report of Council on Pharmacy and Chemistry: Severe anaphylactoid and fatal reactions to penethamate hydriodide (neo-penil), J. A. M. A. 151:1105, 1953.
11. Editorial: Blood dyscrasia following the use of chloramphenicol, J. A. M. A. 149:840, 1952.
12. Bershof, E., Exman, A. C.: Agranulosis following use of phenylbutozone (butazolidin): J. A. M. A. 151:557, 1953.

APLASTIC ANEMIA;

REPORT OF CASE FOLLOWING CHLOROMYCETIN THERAPY AND INFECTIOUS HEPATITIS*

WALTER J. HOLLIS, M. D.**
NEW ORLEANS

LOUIS E. HANISCH, M. D.***
BARKSDALE AIR FORCE BASE, LA.

Aplastic anemia has been definitely connected with increasing use of potent drugs. Although the evidence is circumstantial in many instances, the frequency of association is incriminative.

Apparently the first case of aplastic anemia related to administration of chloromycetin was reported by Rich et al[16] in 1950, although previous investigators had noted hematopoietic depression during the use of the drug.

Although the number of such cases occurring is difficult to assess, Harrington in an

*From the Medical Service of the United States Air Force Hospital, Barksdale A. F. B., La.
**Formerly Captain, USAF (MC), Chief of Medical Service, USAF Hospital, Barksdale A. F. B., La.; at present Instructor, Department of Medicine, Louisiana State University School of Medicine, New Orleans, La.
***Captain, USAF (MC), Pathologist, USAF Hospital, Barksdale A. F. B.

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edited clinicopathologic conference[7] stated that 129 cases had been reported in which chloromycetin, with or without other antibiotics, was received. Harrington's estimate of the frequency of occurrence based on the use of the drug was in proportion of 1:800,000.[7] However, Dameshek[6] in an editorial varied the opinion that statistical frequency means little to the patient who unfortunately develops the disease. He felt that it was increasingly clear that danger exists in the uncritical use of this drug and that indiscriminate use for trivial infections or as a household remedy must be deplored.

Attention was focused on this problem recently with the simultaneous reports[1-5] of quite a few cases of aplastic anemia associated with chloromycetin therapy. A feature noted was intermittent therapy over a short or long period of time and with a variable dosage, even to a small quantity such as 3.0 grams total dosage. The evidence of marrow aplasia might become apparent soon or be prolonged in onset for six weeks or two months. The prognosis is grave in all cases.

In the spring of 1952, we encountered a case of aplastic anemia, eventually total, with its onset during the convalescent phase of a severe infectious hepatitis. It was determined, during the patient's life, that she had ingested a total of 11.0 grams of chloromycetin during the preicteric phase of hepatitis when acute symptoms suggested the diagnosis of influenza. The drug was taken over several weeks time, intermittently, for 3 courses, consisting of 16 capsules, 14 capsules, and 14 capsules respectively. This case is herewith reported.

CASE REPORT

First Admission: F. H. O'N. was first admitted on February 24, 1952, with a history of nausea and vomiting and yellowish discoloration of the skin for one week. The patient had been ill with fever several weeks before admission, thought to be influenza. The history of drug ingestion was negative on this admission, but on a later admission the information that she had taken chloromycetin, for this febrile illness, was obtained. Examination revealed marked jaundice and tenderness over the liver area; otherwise the physical findings were normal.

She was afebrile during the entire hospital stay of 58 days except for a temperature of 100°F. on April 18, 1952, and 99.2° on April 20, 1952. The original icterus index was 53, rising to 97 on March 17, 1952, and had fallen to 20 at the time of her discharge. The serology and chest x-ray were negative. Other laboratory tests revealed a thymol turbidity of 18.0 units, cephalin flocculation of three plus, total protein of 7.1 with a 1.1 A/G ratio. The maximum van den Bergh was 13.0 direct and 9.0 indirect. The blood count revealed erythrocytes 3.4 million per cu. ml., hemoglobin 10.5 grams, leucocytes 7000 per cu. ml. with 68 per cent neutrophiles and 32 per cent lymphocytes. The diagnosis on this admission was severe hepatocellular jaundice due to infectious hepatitis. She received glucose infusions, solu. B vitamin preparation, banthine, magnesium sulfate, and methionine and choline in the usual therapeutic dosage during her hospital stay. She was discharged, after fifty-eight days hospitalization, at her own request despite the fact that complete recovery had not ensued. She was given methionine and choline, two tablets of each, in regular therapeutic dosage, three to four times a day during the interval between this admission and the second admission. These were discontinued on the second admission except for the choline which was discontinued after ten days of the second admission.

Second Admission: She was next seen and admitted on May 13, 1952, because of menorrhagia with the onset of menses which had not occurred since February 1952. In addition, she had mucocutaneous hemorrhagic manifestations. She acknowledged taking three 10.0 grain doses of aspirin during the first two weeks of May. During the latter part of this admission it was determined that she had taken chloromycetin during the preicteric febrile phase of the hepatitis. No other drugs, except the methionine and choline, had been taken.

The physical examination revealed mucocutaneous petechiae with the liver and spleen not being palpable. The temperature was 99°F. The blood pressure was 110/66. In addition there was some urinary bleeding and menorrhagia. The gynecology consultant was of the opinion that the genital bleeding was due to the hemorrhagic state in the absence of any abnormal genital findings.

The icteric index was 7.0 units. The Coomb's test was negative. The urinalysis was negative for albumin and sugar with a specific gravity of 1.007. The fragility test showed beginning hemolysis at 0.32 and complete at 0.26 NaCL concentrations. The prothrombin determination varied between 45 to 100 per cent of normal. The total protein was 6.4 grams per cent with a 1.3 A/G ratio. The thymol turbidity was 9.3 and 7.0 units. The bleeding time varied between 3.0 minutes to greater than 10.0 minutes. The clotting time was reported as varying between 1.5 to 3.0 minutes. The cephalin flocculation test was reported twice as being four plus. The BSP dye test revealed only a 2.0 per cent retention.

Sternal marrow aspiration revealed a relatively dry marrow on May 14, 1952, with the following cytology differential: myeloblasts—9.0%, promyelocytes—2.0%, myelocytes—7.0%, juveniles—3.0%, stabs—3.0%, segmented neutrophiles—20.0%, prolymphocytes — 15.0%, lymphocytes — 39.0% and eosinophiles—2.0%. There were 11 nucleated red blood cells per 100 white blood cells. No megakaryocytes were seen. This marrow smear was considered rather typical of marrow hypoplasia by an experienced pathologist. On May 23, 1952, the marrow puncture was repeated with extreme "dryness" of the marrow being noted and results of the cytology differential as follows: segmented neutrophiles — 29.0%, stab neutrophiles — 15.0%, lymphocytes—56.0%. There were 12 nucleated red blood cells per 100 white blood cells. No megakaryocytes were seen.

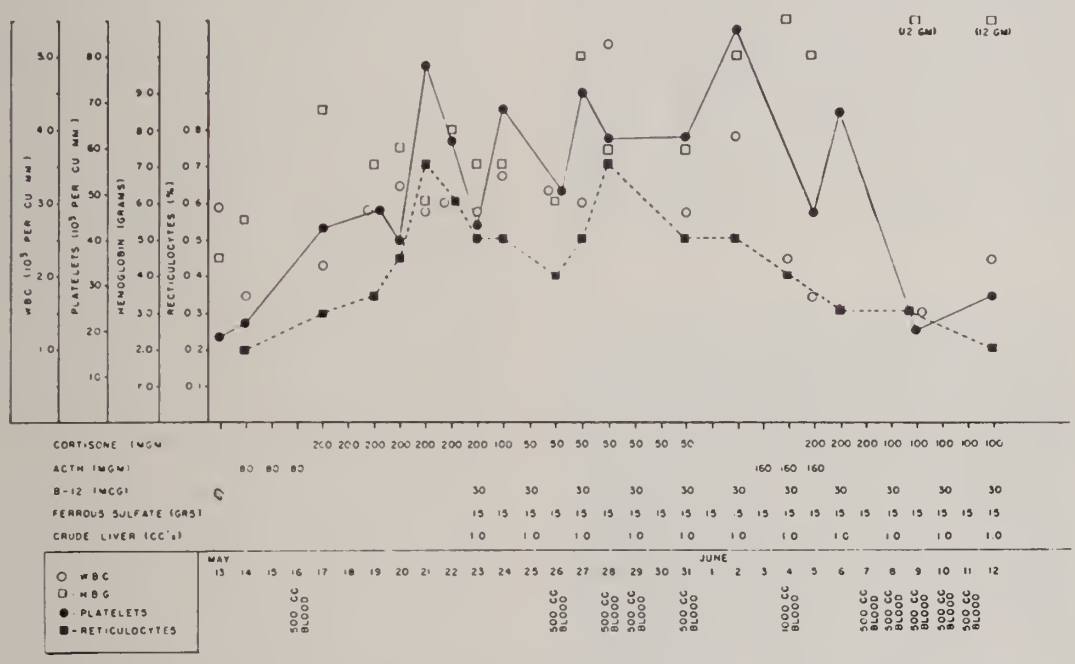

Fig. 1.—F. H. O'N., W. F., age 36; graph showing hematologic values during second administration; and principal therapy with slight reticulocyte response and minimum to moderate platelet response with initial therapy.

The hospital course was characterized by no significant improvement (consult Fig. 1 for principal therapy and hematology values during entire hospital stay). Clinically some benefit in the lessening of the hemorrhagic tendency was noted by objective improvement in the skin manifestations and cessation of the menses on May 21, 1952. However, the menses recurred on May 27, 1952. On May 31, 1952, it was noted that multiple mucocutaneous petechiae were present. This initial improvement may have been incident to ACTH and cortisone therapy since increase in the coagulability of the blood has been noted with administration of these drugs. On June 11, 1952, she had a transfusion reaction of a minor degree without complications. She gained aproximately 9.0 pounds considered incident to the hormone therapy. From June 7, 1952, to June 12, 1952, she had a fluctuating temperature from 99° to 101°F. considered to be due to infection at the site of intramuscular injections. Besides the therapy given in Figure 1 she received the following medicines during this second admission: vitamin K, penicillin, potassium chloride, choline dihydrogen citrate, aureomycin, pyribenzamine and benadryl (for the transfusion reaction on June 11, 1952). She was discharged to her home at her request on June 12, 1952, with instructions to continue aureomycin and cortone in therapeutic doses. As an outpatient she received one 500 cc. transfusion of compatible whole blood on June 17, 1952.

Third Admission: On June 21, 1952, the patient noticed hematuria and collapsed from weakness at home. She was readmitted on June 22, 1952. The blood pressure was 118/68. During this final hospitalization she had an intermittent temperature of 99° to 102°F. There were petechiae and ecchymoses of the mouth and skin. Hematuria was present. The bleeding time was greater than 10.0 minutes and the prothrombin time was 70% of normal. The blood count revealed 2,100 white blood cells per cu. ml., 2.67 million red blood cells per cu. ml., hemoglobin 6.0 grams and platelets reported on two occasions as being totally absent to 15,000 per cu. ml. She received four transfusions of 500 cc. each at intervals of one to three days. On June 28, 1952, the urinary tract bleeding ceased. On June 30, 1952, she developed bi-

lateral subconjunctival hemorrhage with proptosis. On July 1, 1952, severe headache developed and a spinal puncture revealed xanthochromic fluid with pressure greater than 450 mm. On July 3, 1952, bilateral ecchymoses of both eyelids were present and a spinal puncture revealed grossly bloody fluid with pressure greater than 600 mm. Shortly after 5:00 p. m. of the same day stupor intervened and Cheyne-Stokes respiration developed, with death soon after. During this hospitalization she received aureomycin, vitamin C, vitamin K, rutin, nembutal, codeine, and terminally, caffeine sodium benzoate and epinephrine.

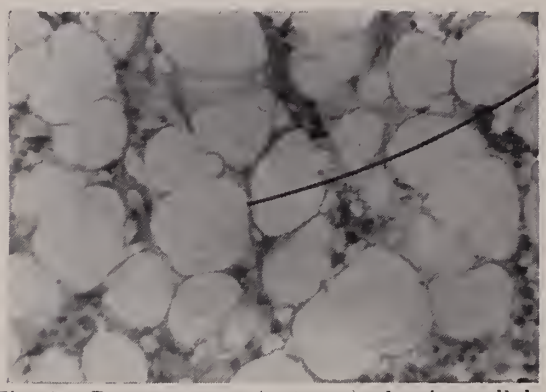

Fig. 2.—Bone marrow (autopsy) showing cellular aplasia with fatty degeneration.

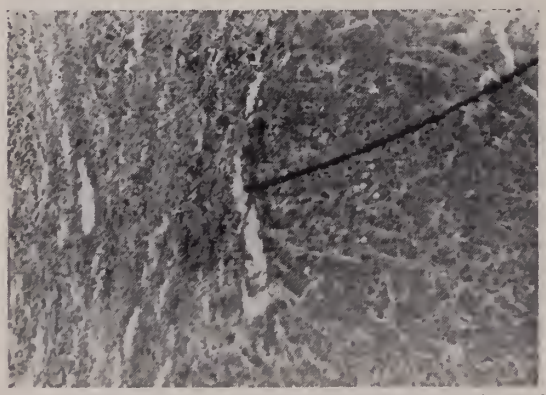

Fig. 3.—Liver (autopsy) showing hepatic cell regeneration (right side) and connective tissue hyperplasia with round cell infiltration (left side).

Autopsy was performed within two hours after death and revealed the following findings: (1) Bone marrow—fatty replacement with cellular hypoplasia and absence of megakaryocytes. (2) Lungs—widespread alveolar, bronchiolar and bronchial hemorrhages. (3) Liver—hepatic cell regeneration with an increase in the connective tissue stroma and round cell infiltration throughout the connective tissue. (4) Kidney—scattered small areas of hemorrhage throughout the parenchyma, otherwise normal. (5) Uterus—normal except for a small amount of clotted blood in the uterine cavity. (6) The spleen, lymph nodes and pancreas were normal. (7) Grossly there were visceral and somatic petechiae. The cranium was not opened but the clinical findings during life indicated an intracranial hemorrhage.

The final diagnoses were (1) Aplastic anemia, (2) Purpura thrombopenic, secondary (3) Hemorrhages, petechial, universal and (4) Hepatitis, infectious, regenerative phase.

DISCUSSION

This case presented the clinical features of aplastic anemia and the inherent complications with pathologic confirmation by autopsy. However, three points were in need of clarification. The relation of the hepatitis to the aplastic anemia was considered. Second, it was to be considered if the choline and methionine administered over a long period of time could be productive of aplastic anemia. Third, it was to be considered as to the role of chloromycetin in the cause of the aplastic anemia.

To our knowledge, infectious hepatitis has not been incriminated as causing aplastic anemia. Lucké,[15] in studying the bone marrow of 22 fatal cases of epidemic hepatitis, noted a mild to moderate degree of hyperplasia, mainly erythrocytic, and suggested that a certain degree of hyperplasia of bone marrow occurs at all stages of fatal epidemic hepatitis, probably as the combined result of hemorrhages and hepatic destruction.

It is not considered that the choline and methionine are related to the development of aplastic anemia in this case, since one is a member of the vitamin B group and the other is an essential sulfurcontaining amino acid. Neither contain a nitro- benzene ring. Hodge[9] noted no significant histopathologic lesions in rats given chronic feedings of choline but there was a diminution in growth rate. Davis[8] reported the depression of experimental polycythemia in dogs with the administration of choline but four normal dogs did not show any significant change in their erythrocytic numbers when given choline. Some investigators have reported the development of macrocytic anemia in dogs given choline but Clarkson and Best[12] were unable to confirm this. Others[10,11] have noted an erythropoietic activity of choline in certain clinical megaloblastic anemias.

Therefore, we have chloromycetin to consider as a definite etiologic factor in this case of aplastic anemia. It contains the nitrobenzene ring that is known to be depressant on the bone marrow. Recent reports[1-5] have emphasized the relation of this drug to aplastic anemia. It is postulated that the liver disease originally may have increased the toxic effect of the drug by failure of proper detoxification during the acute preicteric phase of hepatitis.

During the early part of the aplastic anemia, definite improvement was noted with ACTH and Cortisone therapy (Fig. 1). The bleeding tendency was improved, there was a definite but slight reticulocytosis with rise in the hemoglobin prior to blood transfusions, and a moderate to slight rise in the platelets. This has been noted with the use of ACTH and cortisone in the treatment of certain hematologic states.[13,14]

SUMMARY

1. A fatal case of aplastic anemia incident to chloromycetin therapy and infectious hepatitis has been reported.

2. Chloromycetin is considered to be of etiologic importance although the evidence is circumstantial but nevertheless is incriminative.

3. Slight response to treatment with ACTH and cortisone was noted. Potent hematopoietic drugs were without effect on the ultimate course of the disease.

REFERENCES

1. Hargraves, M. M., Mills, S. D., and Heck, F. J.: Aplastic anemia associated with administration of chloramphenicol. J. A. M. A. 149:1293, (Aug. 2) 1952.

2. Rheingold, J. J. and Spurling, C. L.: Chloramphenicol and aplastic anemia, J. A. M. A. 149:1301, (Aug .2) 1952.

3. Claudon, D. B. and Holbrook, A. A.: Fatal aplastic anemia associated with chloramphenicol (chloromycetin) therapy. J. A. M. A. 149:912 (July 5) 1952.

4. Smiley, R. K., Cartwright, G. E., and Wintrobe, M. M.: Fatal aplastic anemia following chloramphenicol (chloromycetin) administration, J. A. M. A. 149:914, (July 5) 1952.

5. Sturgeon, P.: Fatal aplastic anemia in children following chloramphenicol (chloromycetin) therapy, J. A. M. A. 149:918, (July 5) 1952.

6. Dameshek, W.: Editorial, Chloramphenicol (chloromycetin) and the bone marrow, Blood 7:755, (July) 1952.

7. Clinico-pathologic Conference, Washington University School of Medicine, Edited by Glaser, R. J. and Smith, D. E.: Aplastic anemia in a patient receiving chloramphenicol, Am. J. Med. 13:782, (Dec.) 1952.

8. Davis, J. E.: Depression of experimental polycythemias by choline hydrochloride or liver administration, Am. J. Physiology 127:322, 1939.

9. Hodge, H. C.: Chronic oral toxicity of choline chloride in rats, Proc. Soc. Exp. Biol. & Med. 58:212, 1945.

10. Moosnick, F. B., Schleicher, E. M. and Peterson, W. E.: Progressive Addisonian pernicious anemia, successfully treated with intravenous choline chloride, J. Clin. Inv. 24:278, 1945.

11. Davis, L. J. and Brown, A.: The erythropoietic activity of choline chloride in megaloblastic anemias, Blood, Jour. Hematology 2:407, 1947.

12. Clarkson, M. F. and Best, C. H.: Absence of a macrocytic anemia in dogs fed choline or choline plus fat, Science 105:622, 1947.

13. Jacobson, B. M. and Sohler, W. D.: The effects of ACTH and of cortisone on the platelets in idiopathic thrombopenic purpura, New England J. Med. 246:247, (Feb. 14) 1952.

14. The Physiological Basis For the Action of ACTH in Human Beings, The Armour Laboratories: pp 72-73, Jan. 1951.

15. Lucké, B.: The pathology of fatal epidemic hepatitis, Am. J. Path. 20:471, 1944.

16. Rich, M. L., Ritterhoff, R. J. and Hoffman, R. J.: A fatal case of aplastic anemia following chloramphenicol (chloromycetin) therapy, Ann. Int. Med. 33:1459, 1950.

SURGICAL INTERVENTION FOR ECTOPIC PANCREAS IN THE PYLORUS

GERALD N. WEISS, M. D.
FRANK H. MAREK, M. D.
LAKE CHARLES

Aberrant pancreatic tissue was first described in the stomach by Kolb[7] in 1859. In 1928, Hass[5] had reported only 7 cases on record and 2 personal cases with aberrant pancreatic tissue at the pylorus. By 1950, Busard and Walters[3] reported in a review of the literature that there were 543 cases of heterotopic pancreas, approximately 75 per cent of these being found in the stomach, duodenum, or jejunum. Twenty-five per cent of these heterotopias have been found in the stomach. Ectopic pancreatic tissue has been reported in necropsy material as being present in from 0.04 per cent to as high as 15 per cent of the specimens.[4] Barbosa and Waugh[1] reported the presence of ectopic pancreatic tissue during 1 out of every 500 upper abdominal surgical cases at the Mayo Clinic. The recent literature[8, 3] has increasingly frequent reports of this interesting condition as a cause of symptoms that can be cured surgically. The case report following is illustrative of surgical intervention for the cure of symptoms produced by ectopic pancreas in the pylorus.

CASE REPORT

On March 14, 1952, N. B., a 29 year old white male, was seen complaining of "pains in the stomach." The pains were worse after eating and no pain was experienced if he did not eat. Consequently, the patient ate little and over a period of

two years he lost 30 pounds. There had been no vomiting, but frequent nausea. Stools were normal and there was no constipation or diarrhea. No specific food dyspepsia was noted.

The patient had experienced no serious illnesses, operations, or accidents. He did not smoke or drink alcoholic beverages. His parents were living and well. There were no siblings. The patient was unmarried. He was employed as a janitor in a local high school. He was of French descent, speaking the modified French of our region more fluently than English.

Physical examination revealed a 64 inch, 120 lb., frail individual who presented with teeth in poor condition and subjective epigastric tenderness. The abdomen was of the scaphoid type and no organs or masses were palpable. There was slight tenderness with no rebound tenderness in the epigastric area. The remaining portion of the examination, except for obvious weight loss and loss of skin turgor, was within normal limits. The patient was apparently of low intelligence. From this examination, it was thought that the patient was suffering from a peptic ulcer, and a gastric analysis and x-ray examination of the upper gastrointestinal tract were ordered. On March 17, 1952, a gastric analysis report of free hydrochloric acid was 36 degrees and total hydrochloric acid was 45 degrees. X-ray examination of the upper gastrointestinal tract revealed retained secretions with an antral gastritis and a pin-point duodenal ulcer with a crater.

On March 18, 1952, the patient was advised as to the roentgenologic findings and was instructed as to an ulcer diet, the ambulatory type, with corresponding medication consisting of banthine.

On March 30, 1952, the patient weighed 116 lbs. and was somewhat better from the viewpoint of the fact that he had no more nausea; however, the patient still experienced epigastric discomfort. A complete blood picture and urinalysis at this time were within normal limits.

On April 21, 1952, the patient weighed 113 lbs., and on May 8, 1952, he weighed 111 lbs. There was no evidence of clinical improvement in spite of his careful adherence to the ulcer regime and medication given. A multi-vitamin preparation had also been given during the past month, but this failed to increase the patient's appetite.

On May 23, 1952, the patient still weighed 111 lbs. and failed to show any evidence of clinical improvement. During the two month period under therapy, the patient had lost 9 lbs. A repeat x-ray examination of the stomach was made and showed marked coarseness of the mucosal folds of the stomach with definite mucosal changes with fixation which was believed to be malignant and exploration was advised. The peristaltic waves passed through the stomach uninterrupted. (Fig. 1)

Figure 1.—This x-ray reveals the mucosal relief pattern of the stomach with the distal portion showing a disturbed pattern on the greater curvature (ectopic pancreas in the pylorus). There is also a deformity of the duodenal bulb.

Whereas the patient remained symptomatic in spite of an adequate period of diet and therapy, and exhibited a progressive weight loss and x-ray evidence of some fixation in the region of the pylorus, it was elected to perform an abdominal exploration upon the patient.

On May 25, 1952, this patient was admitted to St. Patrick's Hospital and prepared for gastric surgery. The hematology, serology, and urinalysis were within normal limits. On May 27, 1952, the patient was operated upon with a preoperative diagnosis of duodenal ulcer and chronic gastritis. Under general anesthesia through a right paramedian incision, high in the upper abdomen, the peritoneal cavity was entered. There could be seen a lesion at the pyloric region of the stomach on the greater curvature side, anterior aspect, measuring approximately 4 by 2.5 cm. The tumefaction was located subserosally and noted to be lobulated with a grayish pink appearance and simulating the gross appearance of normal pancreatic tissue. There was no other evidence of gross disease and it was elected to do a wedge resection of this involved area. No nodes were palpated in the gastrohepatic, gastrocolic, or gastrolineal ligaments. The pancreas could be readily visualized through the thin transverse mesocolon and could be easily palpated through the foramen of Winslow. No gross disease of the pancreas was detected. The gallbladder, liver, and other abdominal viscera were within normal limits. The defect in the pyloric region of the stomach on the greater curvature side was closed with a continuous Connel suture extending longitudinally. Prior to closure of the gastric mucosa, the interior of the stomach was clearly visualized and no evidence of hypertrophic gastritis could be seen and the index finger, when inserted into the duodenum, revealed no evidence of ulcer or other

disease. A continuous Lembert suture was placed over the Connel suture and a third layer of sutures consisting of interrupted quilting cotton sutures was used in the serosa. A small rent in the gastrocolic ligament was closed with interrupted quilting cotton sutures; a prophylactic appendectomy was performed without difficulty, and the parietal wall was closed in layers. A firm dressing was applied to the wound and the patient was returned to the ward in good condition. The postoperative diagnosis was ectopic pancreas in the pylorus. The patient experienced an uneventful postoperative course and it was noted that as soon as the patient was free of postoperative pain and able to take a diet by mouth, he was relieved of the postprandial pain in the epigastric region. A blood sugar determination during the postoperative course was within normal limits. The patient was discharged June 2, 1952, on the sixth postoperative day. It is to be noted that the pathologist examined a section of the specimen at time of surgery and reported the tissue to be aberrant pancreas. A final gross and microscopic description confirmed this diagnosis and it was noted that the pancreatic tissue was in the subserosa and muscular coats of the stomach wall. There was no involvement of the serosa, mucosa, or submucosa and no islets of Langerhans were seen.

On June 7, the patient was examined in the office and weighed 107 lbs., taking a soft diet without difficulty, and free of the postprandial pain which was present during the past two years.

On June 19, the patient was again examined in the office, weighing 109 lbs., on a full diet and doing very well.

On July 26, the patient weighed 113 lbs., was eating everything without difficulty and free of symptoms. The wound had completely healed per primum and without difficulty and postoperative complications.

On August 1, 1952, the patient weighed 114 lbs., was eating a good diet and free of any abdominal complaint. A gastric analysis at this time revealed a free hydrochloric acid of 49 degrees and a total hydrochloric acid of 65 degrees. The x-ray examination revealed irregularity on the anterior wall of the stomach, which was believed to be postoperative change. The stomach emptied normally. There was no evidence of duodenal ulcers at this time except for deformity. (Fig. 2).

On April 21, 1953, the patient weighed 123 lbs. and was doing nicely.

Figure 2.—This postoperative x-ray of the stomach depicts a linear shadow at the distal greater curvature which is attributed to surgery.

ETIOLOGY

The three most general expressions as to the etiology of ectopic pancreatic tissue are as follows:

First, it is felt by most writers that this condition represents an aberration of the normal development and does not represent a stage normally present in fetal growth. It is believed that there is a failure on the part of the ventral analogue of the pancreas to migrate to the right and posterior behind the duodenum with a subsequent arrest of a segment. Thereby may be the explanation of the frequent location of ectopic pancreas in the stomach and duodenum.

Secondly, the origin considered by some is the pleuripotential intestinal epithelium which may alter to assume pancreatic structure.

And, finally, King and MacCallum[6] have expressed a belief that pancreatic tissue may arise from gastric-epithelium under the influence of a chronic inflammatory reaction. In support of their contention, these authors call attention to the fact that all of their patients were elderly and they assume from this fact that aberrant pancreatic tissue in the stomach did not appear until adult life when ulceration or inflammatory change had occurred.

PATHOLOGY

Grossly, the aberrant pancreatic tissue appears similar to that of the normal pancreas. The histologic picture of heterotopic pancreatic tissue is, likewise, frequently as that of the pancreas itself—with acini forming lobules with ducts and islets of Langer-

hans. The islet cells are found in approximately one-third of the cases. There may, however, be a lack of this particular histologic feature as well as the acini formation of normal pancreatic tissue. It is for that reason that some sources have preferred to use the term "adenomyoma" for aberrant pancreatic nodules, without clear differentiation of the epithelial elements. Well over 50 per cent of the gastrointestinal tumors are present in the submucosa. There may be extension as was noted in this case to the muscularis or subserosa and rarely to the serosa itself. Small efferent ducts are noted in some cases which allowed emptying of the secretions into the gastrointestinal tract, through ducts extending through the mucosa. It is believed by some that a sudden or gradual obstruction of these efferent ducts by retained secretions will produce a swelling of the gland with retention and spastic contraction of the pylorus due to the ensuing irritation of the pyloric innervation. Such an explanation may apply in the case presented.

SYMPTOMATOLOGY

The literature laid emphasis on the ambiguity or absence of clinical features of this condition. It is frequently noted, however, that the patients often present with symptoms of peptic ulcer. It is felt that in the case presented there are three outstanding features which would seem to characterize ectopic pancreas in the pylorus. First, the postprandial pains which would seem to suggest a gastric-type of peptic ulcer. The pains are so consistent, however, as to lead to a second feature; that is, weight loss, which is often quite severe, but not quite approaching the cachexia of a patient with carcinoma. Finally, it is interesting to note that in spite of a carefully regulated ulcer routine, the patient's symptoms persisted and he continued to lose weight. In the case presented, the patient lost 10 lbs. under an ulcer dietary and therapeutic regime over a period of two months.

ROENTGENOLOGIC FEATURES

Aberrant pancreatic tissue can be diagnosed roentgenographically. In the Mayo Clinic series,[2] a benign tumor was diagnosed in 50 per cent of the cases and in 10 per cent diagnosis was completely missed in the series of ectopic pancreatic tissue of the stomach. In a few cases, the diagnosis was that of ulcer and occasionally that of polyp. It may be difficult, as in the case presented where the greater bulk of the tumor lies in the muscularis or subserosa and little is noted submucosally. According to reports from the series at the Lahey Clinic, [8] the location is most frequently along the greater curvature near the pylorus as was noted in this particular case.

ADDITIONAL DIAGNOSTIC AIDS

It is believed that the gastric analysis is an interesting index that should lead to suspicion of other than peptic ulcer in the face of peptic ulcer symptoms. In the case presented, it is certainly true that the gastric analysis was not unusual, even in the face of ulcer symptoms and a report by the roentgenologist of a pin-point ulcer at the duodenum.

The use of a gastroscopy may be of value, but since most of these tumors are beneath the mucosa, it is felt that visualization of any suspected gastric area would only be of value in a negative sense. It would of course be possible, however, to visualize other benign or malignant growths that may involve the mucosal surface of the pylorus.

SURGICAL THERAPY

The majority of the instances of diagnosis of ectopic pancreas in the pylorus are at time of surgery. When the small aberrant pancreatic nodule is immediately beneath the serosa, the gross appearance and diagnosis is not difficult. Simple wedge-shaped excision of the involved area as was conducted in this case can be performed without difficulty. It is recommended that frozen sections be performed on all specimens excised so as to eliminate possibility of any malignancy or other than the suspected disease. In the event that the lesion is other than benign ectopic pancreatic tissue, indications should be met. In the rare case in which an unusually large, obstructing, ulcerating, or circumscribed lesion is noted, then a Billroth 1 type of anastomosis is indicated with resection of the involved segment. Subtotal gastrectomy may be indicated in those patients, such as have been

reported in the literature, that have both ectopic pancreas in the pylorus and a peptic ulcer. The majority of the cases, however, would fit in the category of a simple resection of the involved area.

SUMMARY

A case report of surgical intervention for ectopic pancreas in the pylorus is presented. Cases of this nature should be suspected when the patient presents with postprandial pains of the "ulcer type," weight loss and failure of response to ulcer management. It is believed that a normal gastric analysis should lead to a high index of suspicion of diseases other than peptic ulcer in spite of peptic ulcer symptoms. The roentgenographic diagnosis is most likely that of a tumor or ulcer, but coupled with the clinical findings and normal gastric analysis, the possibility of aberrant pancreatic tissue should be strongly considered. Surgical intervention, with a frozen section microscopic report at time of surgery, will confirm the diagnosis and local excision of the involved area will effect a cure. Another case of ectopic pancreatic tissue in the pylorus is added to the literature and illustrates the features as summarized.

REFERENCES

1. Barbosa, J. J. de Castro, and Waugh, J. M.: Heterotopic pancreatic tissue, clinically significant in the gastric wall of boy 6 years of age, Proc. Staff. Meet., Mayo Clinic, 22:25, 1947.

2. Barbosa, J. A. de Castro, and Dockerty, Malcolm B., and Waugh, John M.: Pancreatic heterotopia, Surg. Gynec. & Obst., 82:427, 1946.

3. Busard, J. M., and Walters, Waltman: Heterotopic pancreatic tissue—a review of recent literature, Arch. Surg., 60.674, 1950.

4. Feldman, Maurice and Weinberg, Tobias: Aberrant pancreas: a cause of duodenal syndrome, J. A. M. A. 148:893, 1952.

5. Hass, M.: Aberrant pancreatic tissue in pylorus. Medizinache Klinik, 24:539, 1928.

6. King and Mac Callum, cited by Branch, C. D., and Gross, R. E., Aberrant pancreatic tissue in the gastrointestinal tract: a report of twenty-four cases, Arch. Surg., 31:200, 1953.

7. Kolb, J.: Pancreas. Anomalien Ztschr der Gasellach d. Aerzte zu Wein, 15:732, 1859.

8. Marshall, Samuel F. and Curtiss, Frederick M.: Aberrant pancreas in the stomach wall, S. Clin. N. America, June, 1952, pp. 867-875.

PROGNOSIS IN HYPERTENSION; EVALUATION OF 300 CONSECUTIVE CASES*

FRANK W. PICKELL, M. D.

BATON ROUGE

This study seeks to bring all possible factors influencing the course of a case of idiopathic or essential hypertension together into a weighed prognostic index number which will better classify such a case. Such an index could be very valuable, not only for purposes of prognosis but also for evaluating therapy and for comparing series of cases of different observers.

The form (see Form 1) was constructed for evaluating a case into a single index score.

RESULTS

Three hundred consecutive cases from the author's private practice of the past ten years were evaluated and the results are given in Tables 1 through 5. All cases seen in this period are included if thought to be idiopathic or essential hypertensives. The period of observation of all cases averaged slightly over six years.

Table 1 gives sex and race composition of this group of cases. Though not shown in this or other tables, sex and race did not seem to affect any of the observed results.

TABLE 1
SEX AND RACE

	WHITE	COLORED	TOTAL
Males	98	16	114
Females	146	40	186
TOTAL	244	56	300

Table 2 analyzes these cases by age groups. As expected, more cases occurred in the 50 to 70 year old age group and were with higher scores. It will be noted that in the cases of the 70 to 79 year old group, the scores are slightly less; and while 9 of the 26 died, none got into complications. These facts suggest that these older cases may not be true idiopathic hypertensives. There are too few of the cases over 80 to draw any conclusions.

*Presented at the Seventy-third Annual Meeting of the Louisiana State Medical Society, in New Orleans, May 9, 1953.

FORM 1

NAME	MF WC	ADDRESS						
DATE AND AGE	GRADE	1	2	3	4	5	6	7
1 Pathognomonic Signs of Heart Disease	0-4	.....	.....	.....	.....	.....	.....	.....
2 Diastolic Hypertension Level	0-4	.....	.....	.....	.....	.....	.....	.....
3 Retinal Changes (K. W.)	0-4	.....	.....	.....	.....	.....	.....	.....
4 Proteinuria	0-2	.....	.....	.....	.....	.....	.....	.....
5 Cylinduria	0-2	.....	.....	.....	.....	.....	.....	.....
6 Concentration Urine	0-2	.....	.....	.....	.....	.....	.....	.....
7 Previous Vascular Accident	0-2	.....	.....	.....	.....	.....	.....	.....
8 Psychic Tension	0-4	.....	.....	.....	.....	.....	.....	.....
9 Chronic Dis. or Condition	0-1	.....	.....	.....	.....	.....	.....	.....
10 Acute Dis. or Condition	0-1	.....	.....	.....	.....	.....	.....	.....
11 Smoke—Stimulants	0-1	.....	.....	.....	.....	.....	.....	.....
12 Sedimentation Rate	0-1	.....	.....	.....	.....	.....	.....	.....
13 Obesity	0-1	.....	.....	.....	.....	.....	.....	.....
14 Hereditary Tendency	0-1	.....	.....	.....	.....	.....	.....	.....
Index	Total 30	.....	.....	.....	.....	.....	.....	.....

TABLE 2
ANALYSIS BY AGE GROUPS

AGE GROUP BY YEARS	NO. OF CASES	NO. OF DEATHS	NO. IN C V TROUBLE	AVERAGE INITIALLY OF ALL CASES	SCORES ONLY OF CASES JUST BEFORE DEATH OR CV TROUBLE	REMAINING CASES AT FINAL OBSERVATION
0-29	8	1	0	6	11	5
30-39	30	1	0	6	10	4.5
40-49	55	3	7	5.5	10	4
50-59	108	16	24	7	8.5	5
60-69	70	14	22	8	10.5	6
70-79	26	9	0	7	10	5.3
80 and over	3	1	3	10	10	....
TOTALS	300	45	56	....	....	....

TABLE 3
ANALYSIS BY INITIAL SCORE

INITIAL SCORE	NO. OF CASES	NO. DYING	NO. IN CV TROUBLE	% DYING OR IN CV TROUBLE
0-3	40	0	0	0
4-6	100	4	6	10
7-9	81	12	24	44
10-12	63	22	21	68
13-	16	7	5	75
TOTALS	300	45	56	....

Table 3 convincingly shows that the higher the index score, the worse the prognosis. The dividing line, in this index, between a good prognosis and just a fair one is probably 4 and between fair and poor is probably 9.

From table 4 we must conclude that most of the serious cases were initially brought under observation when trouble was fairly imminent.

TABLE 4
ANALYSIS OF CASES DYING OR IN SERIOUS CARDIOVASCULAR TROUBLE

YEARS UNDER OBSERVATION	NO. OF DEATHS	% IN CV TROUBLE
0-2 yrs.	21	20
3-5 yrs.	16	13
6-8 yrs.	7	13
9-10 yrs.	11	8
11- yrs.	0	2
TOTAL	45	56

Table 5 is very interesting as it points out that certain items making up that index score are of much greater prognostic significance than others, namely Item 4 proteinuria, Item 5 Cylinduria, Item 6 lack of concentrating power of the kidneys and Item 12 an increased Cutler sedimentation rate.

With some timidity, tentative prognostic index values are presented in Table 6, based on our experiences in these 300 cases. This can be put in a nutshell, simply stating that with an index score of 0 to 4, the prognosis is excellent to good, of 5 to 8, fair, of 9 or above, poor to very poor.

TABLE 5
ANALYSIS OF CHANGES TO WORSE OF CERTAIN INDEX ITEMS IN THESE 300 CASES

Item	Times an Unexplained Change to Worse Occurred	Times This Preceded Death	Times This Preceded CV Trouble	% This Change was Significant	Rating of Significance
2	14	1	5	40	Some
3	35	3	11	40	Some
4	64	16	16	50	Much
5	30	12	9	70	Much
6	32	11	9	62	Much
7	3	0	1	33	0
8	5	3	0	60	Some
9	3	0	2	66	0
10	9	2	2	44	Some
11	2	0	1	50	0
12	65	14	16	46	Much
13	3	0	1	33	0

TABLE 6
TENTATIVE PROGNOSTIC INDEX

Initial Index Score	% of Cases with This Score will Get into Serious CV Trouble in Given Number of Years	% of Them That will Succumb Initially
0-3	0 up to 20- yrs.	0
4-6	10% in 7 to 10 yrs.	20
7-9	50% in 4 to 6 yrs.	30
10-12	66% in 2 to 3 yrs.	45
13-	75% in 0 to 1 yrs.	60

OCHRONOSIS; REPORT OF A CASE

T. G. BIGGS, JR., M. D.
ED CANNON, JR., M. T.
OAK GROVE

Ochronosis is a clinical state characterized by the deposition of a bluish black pigment in the cartilages and tendons, ligaments, and fibrous tissues of the body. The condition is generally the result of an inborn error in the metabolism of tyrosine and phenylalanine which is present at birth and is inherited as a recessive trait. The defect in metabolism gives rise to the excretion of homogentisic acid in the urine. This is called alcaptonuria because of the intense black color which develops on the addition of alkali. About one-third of the cases of alcaptonuria eventually develop ochronosis, which may appear as early as the second or third decade. The pigment is believed to be a polymer of homogentisic acid. Similar deposits of pigment may occur after long-standing application of phenol to the skin and in instances of melanuria.[1]

CASE REPORT

This is the case of a white male, age 45, a merchant, with the presenting symptoms of arthritis involving the lumbar, thoracic and cervical spines, and the knees.

The symptoms of back pain were first noted in 1938. While in the Navy the back pain and disability became increasingly severe and in 1945 he was given a medical discharge on the basis of spinal arthritis. Over the next several years he was seen by several internists and orthopedists who variously diagnosed osteoarthritis, rheumatoid arthritis and Marie-Strumpell disease. X-ray diagnosis in 1947 was osteoarthritis of the lumbar spine, showing bony lipping and some narrowing of the intervertebral spaces but no calcifications of the intervertebral discs.

By 1950, he had been treated with salicylates, pregnenolone, tolserol, and physical therapy without benefit. At that time he was hospitalized for a trial of ACTH. Upon examination it was found that routine Benedict's test for urine sugar consistently gave a black discoloration. Further

studies showed that the urine turned brownish black on standing and alkalization, and the addition of ferric chloride gave a grayish precipate—findings compatible with alkaptonuria. The patient gave a history of urine staining the clothing brown since infancy and there was no history of contact with phenol compounds. No siblings showed this trait and neither of his two children showed any signs of this disorder. Blood sugar and NPN were within normal limits. Sedimentation rate was mildly elevated.

Examination revealed a well developed, well nourished, white male not appearing acutely ill. Blood pressure 116/72, pulse 72, temperature 98.6°F. Both ears showed a marked bluish discoloration of the cartilages. Eyes, including fundi, were normal and there was no discoloration of the sclerae. No discoloration of the nasal cartilages was noted and the mouth was normal. Heart and lungs revealed no abnormalities. Examination of the abdomen revealed mild right lower quadrant tenderness. The back showed loss of lumbar lordosis, moderate dorsal kyphosis and a poker spine. There were no points of tenderness along the spines although motion in all directions gave moderate pain referred to the lumbar region. The right knee showed no redness or swelling but gave moderate pain on motion. X-rays of the thoracic and lumbar spines showed calcification of the intervertebral cartilages, narrowing of the lumbar interspaces with minor hypertrophic lipping, and mild sclerosis of the vertebral plates at the level of the disc calcifications. X-rays of the knees showed only minimal narrowing of the medial portion of the joints. Excretory urograms were normal. Electrocardiograms were normal.

Prior to ACTH therapy there was an average eosinophil count of 413 taken over a period of three days. Four days after beginning therapy the cosinophil count had dropped to zero and remained zero for the next three days. All counts were done at 2:00 P. M. ACTH dosage was 40 mg. daily for two days, 60 mg. daily for the next two days, and a maximum dose of 80 mg. daily for two more days. At this point the patient had experienced no relief from his back pain and the pain in the right knee had become exaggerated with the development of effusion. Peripheral edema and a beginning moon face had also developed. As there had been no subjective improvement, ACTH was gradually withdrawn over the next thirteen days, following which the side effects disappeared.

In 1952, the patient was started on butazolidine, 600 mg. daily, and ascorbic acid, 300 mg. daily. Considerable relief of pain was experienced on this regime, which was continued for about three months but discontinued by the patient because of the gastric distress. Butazolidine was restarted several times with relief of the arthritic pain but always discontinued because of the gastric symptoms. He then resorted to aspirin with codiene gr. ¼, once or twice daily, for pain relief.

Following the recent reports of Cope and Kassander[2] in the use of cortisone in ochronotic arthritis, this patient was given a trial of the drug in spite of the poor symptomatic response from ACTH. Dosage was initiated at 300 mg. daily, decreasing gradually to a maintenance dose of 50 mg. daily. Prompt and complete relief of pain was noted as well as the usual increased sense of well being. Side effects have consisted only of insomnia. Examination of the urine during the higher dosage schedule (100 mg. daily) did not show the usual dark brown discoloration of the urine on alkalization or standing. There was a normal and negative reaction to Benedict's solution and the ferric chloride test was negative. However, when the dose had been decreased to 50 mg. daily all the original findings of alkaptonuria returned.

COMMENT

This case is reported as an addition to the literature and because it apparently is the second case of ochronosis to be treated with cortisone. It is interesting that this patient responded almost immediately to cortisone whereas in spite of adequate adrenal response to ACTH, as evidenced by the sustained reduction in the eosinophil count, there was actually progression of symptoms while on the latter drug. Reversal of the alkaptonuric signs on high cortisone doses is in agreement with the findings of Cope and Kassander, recurring as soon as the dose was lowered.

This case was also studied at the Ochsner Clinic, New Orleans, Louisiana, where the diagnosis of ochronosis was confirmed. Further metabolic studies in relation to the melanotic hormone are to be undertaken there.

REFERENCES

1. Cecil & Loeb: Textbook of Medicine, W. B. Saunders Co., 8th edition, 1951, p. 604.
2. Cope, C. B., and Kassander, Paul: Cortisone in ochronotic arthritis, J. A. M. A., 150:997, (Nov. 8) 1952.

RECENT ADVANCES IN THE TREATMENT OF HYPERTENSION

JOHN E. BECHTOLD, M. D.
NEW ORLEANS

During the past four to five years encouraging progress has been made in the therapy of hypertension. This progress has

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been made primarily in the field of newer drugs which attack hypertension per se rather than basic etiologic mechanisms. In the field of surgery sympathectomy has been used for a number of years and at this time its value and limitations can be defined at least to some degree. The newer procedures of adrenalectomy with or without sympathectomy are purely experimental and should rightly be considered so until much more experience has been gained. The purpose of this paper is to summarize the present status of these various therapeutic procedures.

Hypertension is not a disease but merely a manifestation of an underlying systemic process. Accordingly etiology, if possible, must be clarified in every patient observed. Curable forms of hypertension such as coarctation of the aorta, pheochromocytoma and unilateral kidney disease, even though of relatively rare occurrence, must not be overlooked. Pyelonephritis in this day of antibiotics should be a rarity. In considering the possible etiologic mechanisms in essential hypertension, it is not surprising that no one drug or surgical procedure has been uniformly successful. Emotional tension acting through the sympathetic nervous system, humoral pressor substances such as pharentasin, serotonin, angiotonin, hypertensin, plus corticoadrenal factors, may all play a part in etiology. In many cases more than one or all of these factors may be in force.

SURGICAL PROCEDURES

Surgical procedures for the treatment of hypertension include sympathectomy and adrenalectomy. Considerable experience has been accumulated with sympathectomy, and it is obvious that there are distinct limitations to the procedure. Short term results may appear favorable but hypertension may recur five to ten years postoperatively. A permanent cure is obtained in only about 15 per cent of cases. Unfortunately, there is no way of predicting which patients will have a good result. Preoperative stress and sedation tests have proven to be of little value. Smithwick's results are good but primarily in his group 2 and group 3 patients where mortality has been reduced correspondingly from 37 to 22 per cent and 71 to 34 per cent. Good results with sustained falls in blood pressure are reported as follows: Grimson 66 per cent of 113 patients; Evans and Baccles 47 per cent of 113 patients; Smithwick 37 per cent of 439 patients; White 22 per cent of 50 patients; Evelyn 12 per cent of 100 patients.[1]

Generally speaking indications for sympathectomy are:

A. Incapacitating symptoms not relieved by medical means.

B. Progressive vascular disease.

C. Early malignant hypertension.

Actually, considerable disagreement as to indications, contraindications and results still exists.[11] However, the procedure will continue to be of value until better medical treatment than we now have is developed.

Subtotal adrenalectomy, total adrenalectomy, or one of these two plus sympathectomy, as yet is purely experimental. With the advent of cortisone, Wolferth, Jeffers and their group began, in 1949, to evaluate the procedure, and at this time certain preliminary impressions have been gained.[2] The preoperative evaluation, surgical procedure and follow-up care are a formidable undertaking and should be attempted only by groups of physicians experienced in adrenal surgery and in the handling of patients with adrenal insufficiency.

In their experience with 82 patients, the following generalizations can be made. The amount of adrenal tissue capable of maintaining patients in satisfactory health, is quite small. There must be at least 95 per cent of the adrenal tissue removed if reduction of blood pressure is to occur and even in the presence of mild adrenal insufficiency, hypertension will persist in some patients. It is the impression that adrenalectomy plus sympathectomy will produce better results and better control of hypertension. Congestive failure and hypertensive retinopathy respond very well to the procedure. Patients who are over the age of fifty or who have renal insufficiency are poor candidates. Of the 82 patients subtotal or total adrenalectomy has been done in 13. Most of the remaining cases have

been a combination of subtotal adrenalectomy and sympathectomy, and in a fewer number total adrenalectomy plus sympathectomy. Of the 82 patients a decline in blood pressure to less than 150/100 lying and standing has occurred in 21. Fifteen have had a fall to normotensive levels in the standing position but still exhibit hypertension in the lying position. There have been 19 deaths. Heart size decreased in 41 per cent. Improvement in fundi occurred in 48 per cent and electrocardiographic improvement in 20 per cent. Follow-up has, of course, been short. Obviously the procedure has been limited to patients with extremely severe disease on whom medical management has been to no avail.

HYPOTENSIVE DRUGS

The use of specific hypotensive drugs has gained impetus in the past few years with the discovery of more potent agents. Veratrum preparations including vertavis, veratrite, veratrine, veraloid, veratrone, anatensol, and recently the purified preparation protoveratrine, have been used. Evidence suggests that peripheral vasodilatation and increased vagal tone occur through depression of vasomoter centers in the hind brain. Probably veraloid and protoveratrine give the best results; however, there is little real difference between the various types. The important limiting factors are the narrow range in dosage between hypotensive and toxic effects, and the development of tolerance. Reported results vary. Using protoveratrine orally, Hoobler obtained hypotensive effect in about 75 per cent of patients.[3] However, Page states that only a few patients have maintained significant lowering of blood pressure out of several hundred treated.[4] His experience has been similar with protoveratrine. Probably significant lowering of blood pressure occurs in approximately 20 per cent of patients treated. In the therapy of toxemias of pregnancy, however, veraloid has been quite successful. Fries has reported a group of 50 patients treated with intramuscular veraloid.[5] Controls were given barbiturates and magnesium sulphate. Of the treated group there was an average decline in diastolic blood pressure of 23 mm. of mercury compared to 4 mm. in the controls. In the 12 patients with eclampsia the fall in diastolic blood pressure was 28 mm. compared to 3 mm. Symptomatology and serious complications were significantly less in each group. Similarly hypertensive crises may respond well to parenteral protoveratrine or veraloid.

Hydrazinophthalazine, commercially known as apresoline, has been used alone and in combination with other hypotensive drugs. Its action is unique in that it produces an increase in cardiac output, a decrease in peripheral resistance, and an increase in renal and hepatic-portal blood flow.[19] The increased renal blood flow does not result in an increase in kidney function. The drug acts centrally either on the midbrain or hypothalamus, inhibiting emission of pressor impulses over the sympathetics. It also inhibits the action of several pressor substances including pharentasin, serotonin and hypertensin. Schroeder suggests that there is an inactivation of carbonyl groups in pharentasin. Dosage should begin at 10 mgs. four times daily, progressing to a maximum of 800 mgs. per day, if tolerated. A minimum of eight weeks as a trial should be given since late falls in blood pressure may occur. Side reactions include headache, anorexia, nausea, vomiting, tachycardia, palpitations, prostration, dizziness, urticaria, flushing and lacrimation. A grippe-like syndrome with fever, joint pains and muscle aches has been reported in a small per cent of patients. Many of these symptoms can be avoided by starting at a low dosage level and employing antihistamines since apresoline acts as an antihistaminase. Side reactions occur in 70 to 80 per cent of patients but require discontinuance of therapy in only 10 to 15 per cent. Reported results in a large series of patients include a satisfactory fall in blood pressure in 55 per cent of Taylor's patients,[6] 50 per cent of Hafkenshiels series,[7] and 63 per cent in Riven's series.[8] Better results are observed in neurologic hypertension and postsympathectomy patients.

Hexamethonium is a powerful ganglonic blocking agent. Hemodynamic effects include a decrease in cardiac output and a

slight or insignificant decrease in total peripheral resistance. Pressures on the right side of the circulation uniformly decrease. It will be noted that these changes are opposed to, and therefore, tend to neutralize those of apresoline, while at the same time there is a synergistic action on lowering of blood pressure. Since both sympathetic and parasympathetic ganglia are blocked, a variety of side effects including stuffy nose, dry mouth, visual blurring, urinary retention, low salt syndrome, serous otitis media, indigestion due to hypochlorohydria and constipation varying all the way to paralytic ileus may occur. Urecholine or myastenol will counteract these reactions to some extent. The hypotensive effect of hexamethonium is profound and is certainly potentially dangerous. Serious reactions including precipitation of anuria, coronary thrombosis, cerebral ischemia, cerebral thrombosis, angina pectoris, multiple disseminated myocardial infarctions, and fatal uremia with a significant number of deaths have been reported. A too rapid reduction in blood pressure, particularly in severely hypertensive patients is dangerous. Presence of renal insufficiency requires caution. In patients with coronary artery disease, diastolic pressures below 100 should not be attempted. When used with apresoline, and this combination is more effective than either drug alone, the blood pressure should be regulated in the hospital. Usually hexamethonium is begun first with dosage in the order of 125 mgs. every eight hours, progressing to a daily maximum total of 4 to 5 grams. Both drugs should never be started simultaneously. After discharge from the hospital, constant daily blood pressure determinations must be done by members of the family or the patient and dosages regulated accordingly. Results of treatment vary. In Schroeder's first 100 patients, approximately 50 to 60 per cent achieved sustained average normotensive levels and all patients had some reduction in pressure.[9] Of 22 malignant hypertensives, 8 were normotensive and 12 slightly hypertensive. Kilpatrick and Smirk's experience also has been quite favorable.[10] However, they are more enthusiastic about subcutaneous administration, stating that adequate control of blood pressure can be obtained in almost all hypertensives by this method. Others, including Page,[4] Lockett and Swan,[12] have had disappointing experience.

Several other drugs should be mentioned. Thiocyanate has been used for a number of years. At serum levels of 3 to 6 mgs. per cent, headache can be controlled in about two-thirds of patients. Toxicity is a limiting factor at hypotensive concentrations. Nitroprusside has had a limited trial recently and acts through the thiocyanate mechanism. Rawolfia serpentina, a drug which has a mild hypotensive and sedative action, is most useful in persons with anxiety neurosis and labile blood pressure.[13] Moderate reduction in blood pressure occurs in about 50 per cent of patients. It apparently is more useful when used in combination with other drugs.

Of the dihydroergotamines, hydergine orally and parenterally has been used in several studies but has been shown to be of practically no value.[14, 15] Dibenzyline, a beta-alkylamine with an adrenolytic action similar to dibenamine, has been given a limited trial recently but has not been particularly successful. Bakke and Williams treated 62 patients.[1] Thirteen per cent showed a marked decrease in pressure and another 20 per cent a definite though less pronounced effect. Most of those who showed a good response in the hospital relapsed as out patients. In Moyer's group of 32 patients,[16] 47 per cent showed a drop to less than 150 mm. systolic and 100 mm. diastolic in the standing position. Incidence of side effects was high. Only 34 per cent continued therapy for more than three months.

In the field of research most studies have concerned the use of tissue extracts, particularly kidney. Kremen and Wakerlin treated hypertensive dogs with hog renin and reported consistent hypotensive effect which can be correlated with antirenin titers.[17] Ohler and Wakerlin have treated hypertensive dogs including neurogenic and spon-

taneous types with paradrine hydrobromide, a sympathomimetic amine with persistent blood pressure lowering effects over a period of months.[18] It is postulated that paradrine may have a chemical structure close to that of renal humoral pressor substances and thereby occupy peripheral receptor organs in competition with the latter material.

The question frequently arises as to which drug to use in a patient with hypertension. This cannot be answered definitely. However, most routine hypertensives will do well with mild sedation and reassurance. A salt free diet will help if it can be maintained. Milder acting drugs mentioned above may be given a trial alone or in combination. If the hypertension is severe and, more important, if progressive vascular damage is observed, then the more powerful agents such as a combination of apresoline and hexamethonium should be employed or it may be necessary to resort to sympathectomy.

REFERENCES

1. Bakke, J. L. and Williams, R. H.: Treatment of essential hypertension with B. Alkylamines, especially dibenzyline, Am. J. Med. 14:141, (Feb.) 1953.

2. Jeffers, W. A.: The current status of 72 patients with severe hypertension subjected to adrenal resection and sympathectomy, Read at Am. College Physicians meeting, April 1953.

3. Hoobler, S. W., Corley, R. W., Kaboza, T. G., Loyke, H. F.: Treatment of hypertension with oral protoveratrine, Ann. Ind. Med. 37:465, (Sept.) 1952.

4. Page, I. H.: Clinical conference, management of moderately severe arterial hypertension, Circ., 7:116, (Jan.) 1953.

5. Finnerty, Frank A., and Fuchs, George J.: The veratrum treatment of pregnancy; a controlled study, Read at Am. Heart Assn. annual meeting April 1953.

6. Taylor, R. D., Dustan, H. P., Page, I. H., Corcoran, A. C.: Evaluation of L-hydrazinophthalzine (apresoline) in treatment of hypertensive disease, Arch. Int. Med. 90:734, (Dec.) 1952.

7. Hafkenschiel, Jos. H., and Lindauer, M. August: L-hydrazinophthalazine (apresoline) in the treatment of hypertension; a two-year study, Circ. 7:52, (Jan.) 1953.

8. Rivens, Samuel S. *et als* The control of hypertension with L-hydrazinophthalazine (apresoline): Am. J. Med. 14:160, (Feb.) 1953.

9. Shroeder, Henry A.: Control of hypertension by hexamethonium and L-hydrazinaphthalazine: Preliminary observations, Arch. Int. Med. 89:523, 1952.

10. Kilpatrick, J. A. and Smirk, F. H.: Comparison of oral and subcutaneous administration of methonium salts in the treatment of high blood pressure: Lancet 1:8, (Jan.) 1952.

11. Allen, E.: Sympathectomy for essential hypertension, Circ. 6:131, (July) 1952.

12. Lockct, S., Swan, P. G. and Grieve, W. S. M.: Methonium compounds in the treatment of hypertension, Brit. Med. J. 4710:778, (Apr.) 1951.

13. Wilkins, R.: New drug therapy in arterial hypertension, Ann. Int. Med. 37:1144, (Dec.) 1952.

14. Dupuy, Homer J., Signorelli, John, and Attyah, Albert G.: Dihydrogenated ergot alkaloids in the treatment of essential hypertension. Circ. 5:285, (Feb.) 1952.

15. Sutton, George C., *et al*: A clinical evaluation of the treatment of hypertension with dihydrogenated ergotoxine alkaloids, Am. Heart J. 44:622, (Oct.) 1952.

16. Moyer, John H. Miller, Sam. I., and Ford, Ralph V.: Results of therapy with dibenzyline in the treatment of hypertension and a comparison with other autonomic blocking agents, Read at Sou. Soc. for Clinical Research annual meeting Jan. 1953.

17. Kremen, S. and Wakerlin, G. E.: Treatment of long standing experimental renal hypertension in dogs with semi-purified hog renin, Read in abstract at Am. Heart Assn. annual meeting. April 1953.

18. Ohler, E. A. and Wakerlin, R. E.: Amines in experimental hypertension. Circ. Research, 1:222. (March) 1953.

19. Fries, E. D., Rose, J. C., Partenope, E. A. and Finnerty, F. A.: Comparison of the hemodynamic effects of hexamethonium and apresoline in man, Presented at Sou. Soc. for Clinical Research, Annual Meeting, Jan. 1953.

REPORT OF SUPPLEMENTARY FEEDING OF FIRST GRADE CHILDREN IN A CENTRAL LOUISIANA TOWN

MARGARET C. MOORE, M. S.
EOLA P. ROOKS, M. S.
INEZ H. PETERS, M. S.

When the regional public health nutritionist and the state consultant made a visit to a rural elementary school of approximately 200 enrollment, the two sections of the low first grade children appeared to be average or above in general appearance. However, when the nutritionists demonstrated a routine screening of the children for the teachers, the principal and the parish supervisor, they found that many children had some outward signs of nutritional deficiencies: 63 per cent had abnormal appearing tongues, raised papillae with slightly purplish color; about 57 per cent had cracked and bluish lips; and about 7 per cent had actual lesions at the corners of their mouths.

Since these signs are considered by some nutrition workers to be due to a deficiency of the B complex group of vitamins, the nutritionists suggested that a supplementary feeding project be designed to increase the intake of this group of nutrients. They made plans to accomplish this with the principal, the teachers of these two sections of the low first grade, and members of the school health committee, among whom were the home economics teacher and the manager of the school lunch room. They also discussed this plan with 135 parents who

were present at a meeting called by the principal.

Thirty-three children who were enrolled in Section I of the low first grade constituted the experimental group and received the supplementary feeding for one month (twenty school days). The other 35 children who were enrolled in Section II served as a control group with no extra food.

Before starting this project, they deemed it wise to record a ten days' dietary history of foods eaten both at home and at school by the children.

It was particularly difficult to get actual recalls of food intake in children six and seven years old. The nutritionist and the home economics teacher devised a plan that proved satisfactory: girls selected from the home economics department were each assigned several children. They worked with their children every school day until the youngsters became accustomed to remembering the foods eaten at home. The girls ate with their little charges at school so the record of the lunch intake would be accurate. When the children were remembering accurately (determined by spot checks with their mothers), the older girls made written dietary histories for ten days.

These dietary histories indicated the average intake of green and yellow vegetables to be slightly low, 80 per cent of the daily intake recommended by the National Research Council. Citrus fruits and other types of vegetables and fruits were still lower, only 70 per cent of the amount recommended, while whole grain cereals fell to 66 per cent. But meat, eggs and milk intake was exceptionally good: Nearly double the recommended amount of meat, almost an egg a day and 2½ times the recommended allowance of milk and cheese were reported. It must be noted, however, that the school lunch program contributed a large part of the more highly protective foods.

It proved convenient to feed the children each afternoon at recess. Their school lunch was eaten at 11:00 o'clock; hence a feeding at 1:45 in the afternoon was acceptable to the children.

This extra feeding needed to be rich in the B vitamins, palatable, small enough to be eaten with ease by 6 and 7 year olds and easily prepared by the home economics girls. Thus the supplement consisted of one slice of whole wheat bread spread with one level tablespoonful of a mixture of two parts peanut butter and one part dried primary yeast. To make this mixture palatable a small amount of a tart sweet, such as apple sauce or jelly, was added. Each child drank one-half pint of whole milk with this feeding.

Even though the caloric value of the sandwich-milk combination was relatively low, the protein content was approximately 1/3; thiamine 2/5; riboflavin 1/2; and niacin 1/3 of the recommended daily allowance for this age group.

The school offered to bear the total cost of this feeding which amounted to $65.38, a cost of approximately 10 cents per pupil per day. Milk for the twenty day period was the most costly item, $52.80. If the school had used milk made from nonfat dried milk solids, which had proven acceptable to children in other schools in the state, the milk bill would have been reduced to approximately 3 cents per child per day.

At the beginning of the project the weights in both control and experimental groups were compared. In the control group the boys averaged 45.2 pounds and the girls 40.8 pounds and in the experimental group, the boys and the girls averaged 46.8 and 45.9 pounds, respectively.

Although this project was planned primarily to see what changes would take place in the tongues and lips of the children after a month of increased vitamin B complex intake, an interesting and marked weight increase occurred during the feeding period. The 33 children who had received the supplementary food had an average gain of 5.9 pounds; the 17 boys an average gain of 6.2 pounds and the 16 girls, 5.6 pounds. The 35 children in the control group had no appreciable weight change during the month: the girls gained an average of 4 ounces while the boys lost a fraction of an ounce.

This degree of increase in weight in the experimental group was unexpected because the calories supplied by the feeding were calculated to be approximately 300 or only about 20 per cent of the daily needs of children of this age. This high average weight gain may have been a therapeutic response to an increased intake of B vitamins or it may have resulted from an increase in the children's appetite for more of other foods. Both parents and teachers reported an apparent change in the children's appetite, as well as in appearance. Some parents and teachers remarked on individual changes in behavior that seemed to them to be a noticeable improvement. So far as is known, no educational effort on the part of the teachers could have accounted for the difference in the two groups.

Observations of tongues and lips made at the beginning of the experiment and repeated four weeks later showed significant improvement.

Body weights were recorded at the beginnng of the experiment, one month later and twenty months later. These weight figures were tabulated and compared with similar tables compiled by Stuart and Meredith[1] in a fifteen year study of thousands of normal children in Iowa. These observers separated the children by age and sex and tabulated body weights into percentile groups: 10, 25, 50, 75, and 90. By this classification, the lightest 10 per cent of the children are tabulated in or under the 10 percentile group; the heaviest 10 per cent are tabulated in or above the 90 percentile group. The other 80 per cent (the 25, 50, and 75 percentile groups) who can be tabulated above the 10 percentile and below the 90 percentile rating are ascending weight groups and represent children of medium, or average weight. By this method a standard comparison of child population *groups* is possible, and errors due to variations of *individuals* are minimized.

Hence the minus ten percentile (-10) classification would contain all the very small children. If an undue percentage of any group of children classify as in the -10 percentile group, investigation as to cause should be made.

The central Louisiana children in this experiment appeared to be of Anglo-Saxon descent and, for the most part, had names suggestive of such origin, but the 6 and 7 year old group studied did not fall within the Iowa pattern as to weight. Where 10 per cent of the Iowa children fell in or under the 10 percentile classification, 53 per cent of these first graders classified as 10 percentile or below; where 65 per cent of the Iowa children were above 10 and below 75 percentile, 44 per cent only of this group could be so classified; where 25 per cent of the Iowa children were above the 75 percentile, only 3 per cent of these Louisiana children fell in this upper weight category.

In both the control group and the experimental group, the smaller children are perhaps worthy of study (Table 1). They represent the children who are minus ten (-10) percentile or judged to be within or below the range of normal weight recorded for small children in the Iowa study. At the end of one month the experimental group had reduced its -10 percentile classification from 46 per cent to 15 per cent; while the control group remained at 52 and 53 per cent respectively; at the end of one year and eight months, the experimental group had 10 per cent of its children in the light weight or small category just as was true for the children in the Iowa study, but 40 per cent of the control group were still classified at -10 percentile. It seems that the experimental group made a gain within the month that was of a lasting nature.

TABLE 1
PERCENTAGE OF CHILDREN IN -10 PERCENTILE CLASSIFICATION: 3 EXAMINATION PERIODS

-10 Percentile Rating	Beginning of Experimental Period	End of Experimental Period (1 Month)	Re-examination 1 Year 8 Months Later
Control Group	52% of 35 Children	53% of 34 Children	40% of 30 Children
Experimental Group	46% of 33 Children	15% of 33 Children	10% of 29 Children

The data on weight classifications were studied in another way, namely, to see what

percentage of the children remained in the same classification or moved up or down in the one month period of experimentation and at the end of the year and eight months that followed the experiment. (Table 2).

TABLE 2

PERCENTILE CLASSIFICATION OF EXPERIMENTAL AND CONTROL GROUPS WITH REFERENCE TO CHANGE AT THE END OF THE ONE MONTH PERIOD AND 1 YEAR AND 8 MONTHS AFTERWARDS

	% SAME 1 Mo.	1 yr. 8 Mo.	% HIGHER 1 Mo.	1 yr. 8 Mo.	% LOWER 1 Mo.	1 yr. 8 Mo.
Control Group	83%	47%	3%	47%	14%	6%
Experimental Group	26%	34%	74%	62%	None	4%

This method of study would consider each child with reference to his own progress. In the experimental group, only 26 per cent remained in the same classification at the end of one month, while in the control group 83 per cent remained the same; none in the experimental group regressed, but 14 per cent in the control group did. One the other hand, 74 per cent of the experimental group classified in a higher percentile at the end of the month while only 3 per cent of the controls had moved into a higher percentile classification. At the end of one year and eight months, this same trend held but there was a somewhat lesser difference between the two groups.

These data indicate that it would be wise to screen for outward signs of nutritional deviation. This screening should include careful weighing of children, particularly those who are entering school for the first time and classifying of these children according to the method of Stuart and Meredith or some similar method. Whenever an undue percentage of children deviate from normal or are classified as small (-10 and 10 percentile), supplementary feeding should be considered.

Since this experiment was not intended to be other than a teaching demonstration, more detailed experimentation of this type should be undertaken. If so simple a procedure can assure children a better chance to reach their optimum weight during this growth period, it should be investigated and, if practicable, made a part of the health program for school age children.

REFERENCE

1. Stuart, Harold C., and Meredith, Howard: Use of body measurements in the school health program. J. Am. Pub. Health Assn. Vol. 36, No. 12, (Dec.) 1946.

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PENSIONS FOR THE SELF EMPLOYED AND THE PENSIONLESS EMPLOYED

There is a saying of some antiquity in the field of economics that the best tax is an old tax and that it takes years for the inequalities of a new tax to become distributed through productive elements of society in such a way that the effect is not unequally borne. If this is true—which has the sanction of age and much authority—the present income tax is grossly lacking in that distribution of effect which would make it equally, if not commodiously borne. At present, the tax abstracts the surplus of each man's productive years, and in the process leaves his declining years lean. At this point come science and better medical care, which together produce lengthening of these physically declining and economically depleted years.

To relieve this effect partially, Congress, in 1952, made a provision in the income tax law which allowed corporations to pay into a pension fund sums which would be used for pensions to the employed in future years. The money supplied by the corporation was allowed for income tax purposes as an operational expense. In the last eleven years, some 20,000 pension plans have received approval. They cover an estimated 10,000,000 employees, including executives. The employees participating in these plans under the statute do not have to include their employers' contributions in their individual gross income until pensions are received. There is no comparable legislation for the self-employed, who number an estimated ten or more million. These include owners of small businesses, doctors, lawyers, architects, accountants, farmers, artists, singers, and writers. President Eisenhower has said that something ought to be done to help these people to help themselves by allowing a reasonable tax deduction for money put aside by them for their savings. This would encourage and assist them to provide their own funds for their old age and retirement. It is encouraging to realize that the Democratic National platform also took a somewhat similar position.

Since the early part of 1948, the Board of Trustees of the American Medical Association has considered and approved a movement to promote the enactment of suitable federal legislation under which self-employed persons, including physicians, could provide their own retirement benefits. This was to be accomplished, as indicated above, through the deduction of amounts annually from their taxable income to finance retirement plans. The House of Delegates of the American Medical Association has adopted resolutions endorsing this principle. The bills which would lead to its accomplishment have

been presented in Congress and much discussion has occurred. Before the present Congress, there are four identical bills: HR 10, HR 11, HR 2692, and HR 6114. These bills represent the constructive thinking along these lines which has been supplied by the American Bar Association, the American Medical Association, and twenty-seven national organizations whose members are in the categories mentioned.

On August 12, 1953, testimony was given before the House Committee on Ways and Means by representatives of the American Bar Association and the American Medical Association. It was pointed out by George Roberts for the American Bar Association that in considering the problem four facts of outstanding importance must be recognized. First, it is impossible at present for a young man in any of the professions to save enough money to protect himself and his family adequately in case of retirement and old age. Second, there is at the present time a discrimination under our laws against the self-employed. This exists where the corporation can deduct pension funds as expense, and the individual cannot. Third, there is a vast difference in the earned income received in the most productive years and that received in later life. Particularly, does this apply to physicians. Fourth, the present system of taxation operates in such a manner as to siphon responsible members away from the independent practice of their professions, with consequent loss of the initiative and self reliance which characterized Americans in the days of the frontier. Consequently, it was stated that it is not in the public interest for Congress to discriminate against the self-employed in favor of employment by large corporations, as in the present case. It was emphasized that the plan was being proposed under the great principle of eqality in tax treatment, and simply to give the self-employed comparable tax treatment to that now afforded to officers and employees of corporations.

It was further stated by a subsequent witness that it was in the national interest to have our citizens provide for their own retirement, rather than to have to look to the federal, state, or local governments for old age assistance. Congress gave tax favored treatment to pension plans set up by employers for employees which would supplement that which came from Social Security. It is regarded as equally important that the rest of our citizens be encouraged to make provision for their old age over and above any Social Security benefits to which they might be entitled.

Dr. Edward J. McCormick, President of the American Medical Association, stated that this legislation would be of particular benefit to physicians, who go through a long and costly period of training, and whose earnings are bunched into a comparatively short period of years when they are subject to high income tax rates. Dr. McCormick emphasized that under the pending bills the amount of each person's pension would be determined by his contributions without one cent being added by the government. In addition, the program would not force a person into idle retirement in order to draw upon his pension fund.

Against the enactment of these bills it has been argued that they will probably result in the loss of considerable revenue to the Treasury. The answer to this is that even should such a loss occur, it is not fair or right to continue this existing discrimination against the self-employed, even if the loss of revenue has to be made up by increased rates on everybody somewhere else. Dr. Frank G. Dickinson of the Bureau of Medical Economic Research of the A. M. A. pointed out in an elaborate presentation of tables and figures that the bills under consideration would provide the 11,000,000 self-employed, treated as a class, with pension benefits and contribution privileges which are more moderate than those permitted under the plans actually approved by the Treasury for corporation contributions, and that these bills would give the self-employed and pensionless employed a decent opportunity to save for old age under slightly more favorable tax conditions.

As burdensome as the present income tax

is, even small increments of relief are most important to the average citizen. These bills, if enacted, would be of some benefit to the doctor, but will not be giving him special or favored treatment. They will merely equalize, in a small measure, the discrimination against him and similar taxpayers which exists under the present law. It is in the interest of every physician to make the proper representations to his Congressman in regard to this type of legislation.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

PARISH MEDICAL SOCIETIES AND AUXILIARIES ARE INVITED TO SPONSOR THE 1954 A.A.P.S. ESSAY CONTEST FOR HIGH SCHOOL STUDENTS

One thousand dollar first prize for the best essay written on the subject: "Why the Practice of Medicine Furnishes this Country with the finest Medical Care." Other prizes range from $500.00 to $25.00.

This is the eighth Annual National Contest sponsored by Association of American Physicians and Surgeons with the cooperation of State and Parish Medical Societies.

We believe this one of the best means to educate the students as well as grown-ups against the damaging effects of socialized medicine and what it would mean to our people, in giving to them a poor grade of medical care, and denying to them that God given right to choose his or her own physician and to enjoy that private, respected and sacred personal relationship between doctor and patient. The doctor would be merely a robot mechanically doing the duties prescribed by the law controlling socialized medicine or our compulsory federal health system and would prevent our people from securing the best medical care enjoyed by our patients under the American free enterprise system of the practice of medicine, in use at the present time in this country, and which gives to our people the best medical service offered any country in the world.

We are sure you would not have our present system changed. Why not, then, become interested in this essay contest and contact your school superintendent or teachers in the public and parochial schools in your parish and get them to enroll in this essay program? We are firmly convinced that by doing this the members of our Society and the Auxiliary will be doing a wonderful service to our organization and to our people.

Free packaged libraries with bibliography and other valuable material (two or three to a school), may be procured (free of charge) to contesting schools, by writing Association of American Physicians and Surgeons, 360 North Michigan Avenue, Chicago 1, Illinois.

Although actual writing competition in the Essay Contest does not need to start until approximately January 1, 1954, State and Parish Committees should be appointed now so that plans can be completed, promotion started and requests made of schools early in October to include the Essay Contest in their regular school program.

During the past six years, some of the most successful events have been conducted by the Auxiliaries to the State and Parish Medical Societies. It is an ideal program for Auxiliaries.

We would be very much pleased to receive in this office, any inquiries and to receive information as to any progress or success in getting your respective Parish schools organized to enroll in this splendid educational contest.

Get busy! Don't let us down. Help us to keep our pledge to the school children of the state. Your child will benefit along with your patient's child.

REPORT OF OUR REPRESENTATIVE IN ATTENDANCE AT A RECENT MEETING IN CHICAGO OF THE AMA COMMITTEE ON FEDERAL MEDICAL SERVICES TO VETERANS

There were about 100 representatives present, with representation from 36 of the 48 states. We were addressed by Dr. McCormick, President of the AMA, and Dr. Martin, President-elect.

The entire meeting resolved around the medical care rendered to veterans by the government. As you are aware, the House of Delegates of the AMA in New York last June went on record as favoring full and complete medical and surgical care to veterans with service-connected disabilities and medical and surgical care to tubercular and neuroysychiatric cases even though they were non-service connected disabilities.

The highlight of the conference was that we are fast becoming a nation of veterans and that by 1965, if the present rate of induction is continued, there will be 35 million veterans in the United States. This will mean, if the present policy of the Veterans Administration is continued, half of the people will be paying for the benefits of the other half. The care of the veteran is developing so that in a few years its cost will be prohibitive. I quote from a letter from Mr. Jos. M. Dodge, Director of the Bureau of the Budget, written to Hon. B. W. Kearney, House of Representatives:

". . . the present practice of providing free hospital care at the expense of the Federal Government to all veterans with non-service disabilities and illnesses is the result of an evolutionary development dating back to 1924. At that time Congress authorized such hospitalization to the limited extent that excess beds were then available in the hospitals of the Veterans' Bureau because the patient load of service-connected veterans was declining.

It seems to be incontrovertible that the requirement that a veteran must sign a statement indicating his inability to pay for hospitalization has not materially deterred veterans from applying for such care.

"At the present time 122,000 (VA) beds are available, and they are occupied by nearly 100,000 patients. Of this latter number, almost two-thirds are hospitalized for non-service illnesses. In addition, some 3,000 non-service-connected veteran patients are being hospitalized at the expense of the Veterans Administration in other Federal and private hospitals.

"Where is this present unrestricted policy of providing free hospitalization for veterans with non-service disabilities leading us to? The present veteran population, exclusive of persons now in the service, is over 20 million. It is, of course, obvious that if the majority of young men are drafted into military service and the hospitalization entitlement accorded by Public Law 28 is extended to these young men upon termination of their period of military service, the time will come when substantially all of the adult male population of this country will be veterans and the Federal Government will be confronted with a critical problem in attempting to provide them with hospital care. Incidentally, with this continuing enlargement of the veterans' population, it will be the veteran himself and his family who, through taxes, will be paying the major part of the cost of that hospital care.

"It is our rough estimate that, even assuming termination of Public Law 28 within the next 12 months, the bed requirements of the Veterans Administration to provide hospital care for veterans for both service and non-service disabilities under existing policy will increase to 160,000 by 1975. Construction of 30,000 additional beds would be required, at an estimated cost of $600 million; the annual operating cost, which is now approximately $500 million, would increase to $700 million. Continuation of Public Law 28 will generate a further requirement by 1975 of about 45,000 beds, with correspondingly increased costs for construction and operation.

"Such an expansion of the Veterans' Administration hospital system would create

a serious management problem. There is a realistic limitation to the ability to recruit the necessary manpower and to efficiently operate a national hospital system under a single management. Veterans Administration officials have stated that about 120, 000 beds represent the upper limit of such abilities.

"Constant expansion of this hospital program establishes a serious drain upon the physician, nursing, and other scarce hospital manpower resources of the entire country.

"Private and local government hospital facilities for general and special short-term care have been expanded greatly in the last 30 years, particularly during the last decade. Hospitalization insurance for acute illnesses has been developed on a national scale since the end of World War II, with the result that a very sizable proportion of the veteran population participates in such benefits either as a contributory or non-contributory subscriber.

"Traditionally responsibility for the care of long-term chronically ill at public expense has been accepted by State and local government.

"You request specific comment on the problem of permitting payment for all or a part of the cost of hospitalization for non-service illnesses in Federal hospitals. To permit veterans to make payments would change the entire basis upon which the Federal Government has accepted the responsibility for establishing veterans' hospitals. A wholly new philosophy would be created and the Federal Government would then be placed in the competitive business of operating hospitals on a fee-for-service basis and such hospital care could be construed properly by veterans as a basic right rather than a special benefit accorded by reason of their service to the Nation.

"A relatively limited program of hospital care for World War I veterans with non-service-connected illnesses inaugurated 30 years ago has mushroomed into a hospital system serving 40 percent of the entire adult male population of the country and destined in time to embrace most of the population. Two-thirds of these hospital facilities are now devoted to the care of non-service-connected veterans and the proportion will steadily increase. The annual operating cost of these hospitals has increased from $70 million in fiscal year 1941 to $500 million in 1953 and is projected to $700 million in 1975 under present policies. Another large construction program estimated at $600 million will have to be undertaken after 1960.

"These facts suggest the need for reconsidering the extent of the Federal Government's responsibility toward veterans with non-service illnesses.

"This is a difficult subject and not an easy one to resolve in a way that provides full justice to all concerned. In approaching it your committee will receive the full cooperation of the Bureau of the Budget."

The above are excerpts of a letter sent by Joseph M. Dodge, Director of the Bureau of the Budget, to the Subcommittee on Hospitals of the Committee on Veterans Affairs, House of Representatives, 83d Congress, First Session, on Entitlement of Veterans for Hospital Care and Treatment in VA installations. This letter, from the Executive Office of the White House, in all probability reflects the attitude of President Eisenhower toward VA treatment of veterans with non-service-connected disabilities.

The problem before the AMA at the present time is how to disseminate this information to the rank and file doctor and layman, as well as the veteran, and it was the opinion of those present, 90 percent of whom were veterans, that most veterans are being high-pressured into seeking aid for their non-service connected disabilities by officers over them and certain organizations to which the veterans belong.

It was suggested that the doctor-veteran familiarize himself with this subject and join the various American Legion Posts and the VFW and explain to the veteran just what a grave crisis is confronting the American people. In other words, if this is allowed to continue all of the private hospitals will suffer from lack of personnel.

both trained and untrained, due to the fact that they will all be working for the government and socialized medicine will be forced upon us, even though it comes in through the back door.

We have on file in the office of the Council on Medical Service and Public Relations a letter written by a doctor in Pennsylvania, which is very instructive in that it gives suggestions as to what to tell a veteran who is seeking treatment for non-service connected disability. Copy of this letter will be sent to any member of the State Society who requests it.

Respectfully submitted,
W. Robyn Hardy, M. D.

LOUISIANA STATE MEDICAL SOCIETY NEWS

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Morehouse	Third Thursday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

SECTIONAL MEETING AMERICAN COLLEGE OF SURGEONS IN LONDON 1954

For the first time since 1914, when a Clinical Congress was held in London, England, that city will be host to a Sectional Meeting of the American College of Surgeons on May 17 to 19, 1954. This meeting, held at the invitation of leading surgeons of England, many of them Honorary Fellows of the American College or Surgeons, is arousing wide interest, and it is anticipated that more than 500 surgeons from Canada and the United States will attend. All ethical members of the profession are invited to participate in a program which, from all indications, will add another distinguished chapter to College history.

To make this event even more auspicious as well as useful, the Association of Surgeons of Great Britain and Ireland will hold its meeting immediately preceding these dates, in Leeds, May 13 to 15, and the International Society of Surgery in Paris plans special sessions immediately after the London meeting. Other European cities too are planning special features for interested surgeons from other countries.

SCIENTIFIC PROGRAM OF THE SECTION ON CLINICAL CARDIOLOGY 1954

The Section on Clinical Cardiology of the American Heart Association will sponsor a two-day scientific program at the Conrad Hilton Hotel in Chicago on April 3 and 4, 1954. This program will constitute a portion of the Annual Meeting of the American Heart Association and immediately precedes the Annual Sessions of The American College of Physicians. The meeting will be open to all members of the medical profession. Doctor Wright R. Adams of Chicago is Chairman of the Program Committee. Members of the American Heart Association who wish to present papers should send a 250-300 word abstract of the proposed paper to Doctor Charles D. Marple, Medical Director, American Heart Association, Inc., 44 East 23rd Street, New York 10, New York. *All papers should be on subjeets of distinct clinical interest. The deadline for the reccipt of abstracts is January 1, 1954.*

PUBLIC RELATIONS TIP

Psychologically, there's a jagged break in the ideal doctor-patient relationship when a patient with a minor ailment is dispatched with a prescription after one visit to the doctor. "How can the doctor tell whether the medicine helped me or not?" wonders the patient. *Many doctors solve this problem by handing such patients self-addressed postcards and asking them to report on their condition in a day or two.* It's a friendly "let me hear from you" gesture.

(From PR Doctor)

NO DOCTOR DRAFT CALLS EXPECTED FOR 12 MONTHS

National Advisory Committee to Selective Service believes there will be no further calls for physicians registered under the doctor draft for about a year. The committee, in a report dated September 2 and sent to state Selective Service directors, chairmen of state advisory committees, deans of medical schools and others, states: "It is not expected that there will be additional calls for phy-

sicians placed against the Selective Service System by the President for the next 12 months." It adds:

"As a result of Call No. 16 in August (for 542 physicians) and the increased number of volunteers, there have been commissioned a sufficient number of physicians to meet the needs of the armed forces for the immediate future. Those who have been commissioned from either the voluntary list or the Selective Service call will be brought to active duty from time to time until this reservoir is exhausted." The committee says there may be some calls for dentists after several months.

PRIZE ESSAY ON CARDIAC SURGERY

The Trustees of one of America's oldest medical essay competitions, the Caleb Fiske Prize of the Rhode Island Medical Society, announce as the subject for this year's prize dissertation "RECENT ADVANCES IN CARDIAC SURGERY." The dissertation must be typewritten, double spaced, and should not exceed 10,000 words. A cash prize of $250 is offered.

For complete information regarding the regulations write to the Secretary, Caleb Fiske Fund, Rhode Island Medical Society, 106 Francis Street, Providence 3, R. I.

TEEN-AGERS' DIETS MAY BE C-MINUS

Parents of teen-agers should keep a watchful eye on what their youngsters eat. Results of two recent studies show that the diets of boys and girls in both junior high school and high school are seriously lacking in vitamin C.

A 10-year case study into teen-age eating habits was recently completed by Dr. Pauline Beery Mack, dean of the College of Household Arts and Sciences, Texas State College for Women, Denton, Texas, in which the diets of 2,536 boys and girls were carefully scrutinized. This is significant—regardless of income level, both boys and girls, in alarming proportions, were undernourished. In fact, only 50.3 per cent of the bays and 52.4 per cent of the girls met vitamin C recommendations.

LEVOPHED ADMINISTERED TO TREAT ANAPHYLACTIC SHOCK FROM PENICILLIN

Anaphylactic shock following use of penicillin was successfully treated with a glucose solution containing the vasoconstrictor Levophed, when other therapeutic agents failed to restore consciousness to a patient, according to a report in the Ohio State Medical Journal (49:305, April 1953).

The reaction occurred in a 55-year-old ambulatory woman with a chronic infection of the upper respiratory passages of unknown origin, reports Dr. Igor F. Nikishin, associated with Aultman Hospital in Canton, O. While sensitivity reactions in this case were noted after repeated treatments with various antibiotics, none had been observed from previous penicillin injections.

Several minutes following an intramusculas injection of 300, 000 units of crystalline penicillin, however, the patient became cyanotic, dyspneic, began to vomit and collapsed. Physical examination revealed no measurable blood pressure and no pulse of the radial artery. Cortisone, ephinephrine, anti-histamines and other drugs, plus oxygen and plasma failed to bring about consciousness and the blood pressure remained unobtainable.

RESEARCH TO EVALUATE GAMMA GLOBULIN IN POLIO

A Nation-wide cooperative research effort to evaluate the use of gamma globulin against poliomyelitis has been launched, it was announced by Surgeon General Leonard A. Scheele, of the Public Health Service, U. S. Department of Health, Education, and Welfare.

The program is sponsored by the Public Health Service in collaboration with the Association of State and Territorial Health Officers, the American Physical Therapy Association, and the D. T. Watson School of Physiatrics, affiliated with the University of Pittsburgh School of Medicine. An advisory committee comprised of 17 leading polio authorities planned the investigation and will review its progress. The Service's Communicable Disease Center at Atlanta, Georgia, will coordinate the program.

Gamma globulin is a blood derivative, which was shown in tests last year to have some temporary effects in modifying or preventing the paralysis of polio. The primary objective of the program is to measure the extent that gamma globulin reduces the severity of paralysis in victims of poliomyelitis. Multiple case households—those in which two or more cases of polio occur—will be chosen for special study. In addition, all cases of polio in selected epidemic areas will be investigated.

CLINICAL CENTER OPENED AT BETHESDA

The Public Health Service's new Clinical Center at Bethesda, Maryland, was formally dedicated by Mrs. Oveta Culp Hobby, Secretary of the Department of Health, Education, and Welfare, at ceremonies held Thursday, July 2, 1953, the Department announced.

Four days later, July 6, the first patients were received in the 14-story medical research center, which combines specially designed space and equipment for laboratory and clinical investigation with facilities for the care of 500 patients.

Marking the culmination of more than 5 years of planning and construction, the dedication inaugurated use of the new Clinical Center which is designed to strengthen the Public Health Service's efforts to solve the problems of cancer, mental illness, arthritis, heart disease, and other long-term illnesses under research programs conducted by the National Institutes of Health at Bethesda.

WOMAN'S AUXILIARY TO THE LOUISIANA STATE MEDICAL SOCIETY

ORLEANS PARISH

The Orleans Parish Medical Society's auxiliary, which last January decided to "give a nurse to the profession" via scholarship, turns up this summer with 20 prospects. This will be the medical auxiliary's first nursing scholarship, and the name of the recipient, chosen from the 20, will be announced soon. This first "Future Nurse" will be chosen from candidates from public, parochial, and private high school graduates, selected on the basis of scholarship, emotional stability, personality, and, in the case of this scholarship, financial need.

In addition to their scholastic standing at school, they have been interviewed by a group of consultants (auxiliary members and high-ranking nurses) and graded on the basis of personality and emotional stability. Their interview was by first name only. Then they were given numbers which thy are using in their third requirement—financial need. They are writing letters to the New Orleans District Nurses' association telling why they need financial assistance to go through nursing school. They will sign by numbers.

Mrs. Edwin R. Guidry, president, said "The doctors' wives who form the auxiliary want to give a nurse to the profession. We do not want to give a scholarship to a girl who is able to take training.

The Future Nurses' Clubs, also launched last January in the public schools by Mrs. Guidry and her chairman, Mrs. J. T. Brierre, are paying off, several of the candidates have been members.

"We have plans afoot to extend this program to the parochial and private schools next term, and hope to have a doctor's wife who was a nurse sponsor the club," Mrs. Guidry points out. "But even though we did not have Future Nurses Clubs in the parochial and private schools last term, they were included in our program. And they had vocational days when training asa career was explained.

This first auxiliary student nurse will have 400 sponsors. She will be the auxiliary's personal protege, and they will help her in every way. She will also be allowed to choose her own nursing school here in New Orleans.

Consultants who are interviewing the girls include Mrs. Lloyd Kuhn, Mrs. Louis Leggio, Mrs. Vincent Culotta, Mrs. Anees Mogabgab, Mrs. Spencer McNair, Mrs. Brierre and Mrs. Guidry for the auxiliary, and Miss Christine Causey, executive secretary of the Louisiana State Nurses Association; Miss Carrie M. Spurgeon, executive secretary of the State Board of Nurse Examiners; Miss Nancy Harris, chief nurse at the VA hospital here; Miss Helen Danley, chief nurse, US Public Health Service hospital here; Miss Lilliam Jeffries, director of nursing service, Louisiana Public Health Nurses; Sister Patrini, archdiocesan supervisor of Catholic Schools, Miss Louise Solomon, director of nursing services, Orleans Parish School Board, and Mrs. Mildred Fernandez, president of the New Orleans League for Nursing.

BOOK REVIEWS

Allergic Pruritus; Its Dermatologic Management; edited by Stephan Epstein, M.D. St. Paul, Bruce Pub. Co., 1952. Pp. 76. Price $2.50.

This book reproduces a symposium on itching held by the American College of Allergists. Its approach, while thorough, is eminently practical. Contributors include nationally famous men.

It can be recommended to all who have to contend with eczemata and other itching dermatoses.

V. J. DERBES, M.D.

Handbook of Nutrition; Published for the American Medical Association. 2d ed. New York, Blakiston Co., 1951. Pp. 717, Illus. Price $4.50.

The second edition of this handbook of nutrition, prepared under the auspices of the Council on Foods and Nutrition of the American Medical Association, is an invaluable reference for all professional persons interested in nutrition. The subject matter comprises both basic information and practical application of this knowledge to problems of health and disease. The book is divided into four sections dealing with (1) individual nutrients, (2) nutritional needs, (3) nutritional deficiencies, and (4) foods and their nutritional qualities. Individual chapters are written by experts in their respective fields. This volume is the most complete summary of current knowledge of nutrition which is available. The bibliography contains many hundreds of references. The library of anyone engaged in nutritional investigation or teaching would be seriously incomplete without this book. The practicing physician will find much information which will be helpful in the diagnosis and management of nutritional problems.

GRACE A. GOLDSMITH, M. D.

The Architecture of Normal and Malformed Hearts; by Dr. Alexander Spitzer, with a Summary and Analysis of the Theory by Maurice Lev, M. D. and Aloysius Vass, M. D. Springfield, Illinois, Charles C Thomas, Publisher, 1951, Pp. 145, illus. Price $5.00

The authors have done a commendable service in translating the original works of Dr. Spitzer. The detailed and rather complicated thesis of the

origin of congenital cardiac defects has been made available along with criticisms of this theory. As the authors indicate there have been certain arguments in the past with some aspects of torsion and septation of the heart. Some of Dr. Spitzer's unpublished answers to his critics are included in the translation.

The last part of the book is a summary of the phylogenetic theory of the development of cardiac defects and modification of the original theory by the authors.

This book is of special interest to the greatly expanded number of students of congenital cardiac defects.

CLARENCE THORPE RAY, M. D.

Cardiac Pain; by Seymour H. Rinzler, M. D. Springfield, Illinois, Charles C Thomas, Publisher, 1951. Pp. 139. Price $3.75.

This book is a short monograph on certain aspects of cardiac pain. The material presented includes the history, nerve pathways of the heart, mechanism of production of cardiac pain, medical therapy and surgical therapy. Considerable attention is given to the history of cardiac pain, and the bibliography and index occupy almost as much space as the text. Certain of the chapters such as the ones on nerve pathways of the heart and the mechanism of production of cardiac pain are available in more adequate form in many other texts. The only aspect of therapy which is peculiar to this book is that of anesthetizing the trigger areas in areas of somatic reference of cardiac pain. This subject is given adequate consideration. Anyone interested in this approach will find this book interesting.

CLARENCE THORPE RAY, M. D.

Practical Clinical Psychiatry; by Edward A. Strecker, A. B., A. M., Sc. D., Litt. D., LL.D., M. D., Franklin G. Ebaugh, A. B., M. D., Jack R. Ewalt, M. D., Section on Psychopathologic Problems of Childhood, by Leo Kanner, M. D. 7th ed. Philadelphia, Blakiston Co., 1951. Pp. 506. Price $7.00.

This book is intended as a textbook for medical students and as a reference work in psychiatry. A significant trend is the turning away from the Meyerian concepts. *Practical Clinical Psychiatry* continues to be well-written and has been kept well up-to-date on the newest refinements of psychiatry. The tremendous increase and complexity of the treatment aspects of psychiatry in recent years have been concisely reviewed. One noteworthy exception is the author's obvious antipathy toward the tenets of psychoanalysis. An excellent portion of the book is the new section on psychosomatic medicine.

GENE L. USDIN, M. D.

Nutrition and Clinical Stress; by H. H. Mitchell and Marjorie Edman. Charles C Thomas, Publisher, Springfield, Ill., 1951. Pp. 234. Price $6.75.

In these times of global unrest and shrinking distances due to rapidity of air travel, knowledge of relationships between nutrition and climatic stress has become increasingly important. The pertinent literature on this subject is reviewed critically in this excellent monograph. The influences of cold and hot environments and of altitude are discussed from the following standpoints: (a) physiologic effects, (b) effects on nutrient requirements in animals and man, and (c) effects of dietary modifications on tolerance to climatic stress. Practical considerations are summarized in the final chapter and recommendations made for future investigations. The bibliography is extensive and includes much material previously unpublished. The book is interesting, clearly written, and well organized. It should be a stimulating and valuable reference for physicians and research workers interested in relationships between nutrition and environmental stress.

GRACE A. GOLDSMITH, M. D.

Correlative Neuroanatomy and Functional Neurology; by Joseph J. McDonald, M. S., M. Sc. D., M. D. and Joseph G. Chusid, A. B., M. D. 6th ed. Los Altos, Cal.; University Medical Publishers, 1952. Pp. 263. Price $4.00.

This manual, which has served a useful purpose for several years, has been revised and enlarged. New material has been added, principally in the fields of aphasia, headache, syncope, and muscle testing. A possible deficit is the minimal elaboration of psychiatric symptoms arising from neurological pathology. The sections on nerve conduction have been revised and are well presented in the light of newer knowledge since publication of the previous editions. It should be welcomed by those who desire in outline form a concise survey of neuroanatomy and functional neurology. As such, it is a valuable review for those preparing to take the Boards after studying the basic works in neuroanatomy, neurophysiology and neuropathology.

GENE L. USDIN, M. D.

Ambulatory Proctology; by Alfred J. Cantor, M. D. 2nd Edition, New York. Paul B. Hoeber, Inc., 1952. Pp. 1179, illus. Price $15.00.

The second edition of *Ambulatory Proctology* appears six years after the first. It remains the expressed opinion of the author on the diagnosis and treatment of various diseases. It emphasizes the treatment that can be done in the office.

The main additions have been in changes in antibiotic and chemotherapy. Further personal experience with tatooing of the perianal region for pruritus is given. However the entire text has been brought up to date and covers the stated purpose: the medical and surgical treatment of the anus,

rectum, and sigmoid bowel without confining the patient to bed.

PAUL TRAUTMAN, M. D.

Diseases of Metabolism; edited by Garfield G. Duncan, M. D. 3d ed. Philadelphia, W. B. Saunders, 1952. Pp. 1179, illus. Price $15.00.

This edition of Dr. Duncan's clinical book on metabolic diseases brings up to date the clinical aspect of metabolic diseases as integrated with normal physiology and pathological physiology. In addition to the co-authors of the previous two editions, new contributors, who are leaders in their particular fields, have been added. The co-authors have presented their interpretation of their own metabolic specialties, giving, at the end of each discussion, pertinent bibliographic material. The latter is adequate to initiate reference to basic source material. In addition to the bibliographic section following each chapter, there is an excellent author index for quick accessibility to such authors utilized in the text for chapter bibliography.

The contents of the previous editions are well known. The chapters on carbohydrates, water balance, nutrition, thyroid gland, and diabetes in children have been re-written. Dr. Dunbar has practically re-written the chapter on diabetes, and there is an added chapter on porphyrin metabolism.

This monologue can be of value to the clinician, teacher and laboratory workers; it is of particular value in its correlation of recent literature for the use of other practicing physicians.

J. SCHENTHAL, M. D.

Gynecologic and Obstetric Pathology; by Emil Novak, M. D. 3d ed., Philadelphia, Pa., W. B. Saunders Company, 1952, pp. 595. Price $10.00.

Dr. Novak's third edition of his textbook "Gynecologic and Obstetric Pathology" has been revised by the author and his son, Dr. Edmund R. Novak. The reason for this revision given by the author is to keep this successful medical textbook "fully abreast of any developments in the field covered by the book." Older topics are revaluated and newer developments are included in the newer edition. For this reason the subjects of corcinoma of the cervix, carcinoma in situ, hydatidiform mole and chorionepithelioma, and certain ovarian tumors, have been extensively rewritten.

Innumerable minor additions and alterations have been included in this third edition and some sections have been completely rewritten. Although a number of uncommon lesions not discussed in previous editions have been included in the present edition for the sake of completeness the author has kept the size of the volume down in order not to make it bulky. The illustrations, which make the book an atlas as well as a textbook, are increased by nearly 100 in this edition, some replacing former ones with new ones added. A chapter on Diseases of the Breast of Gynecologic Interest is included.

In summary, this excellent book has been revised to keep abreast of changing trends in medicine.

C. M. JOHNSON, M. D.

Physiological Bases of Gynecology and Obstetrics; by S. R. M. Reynolds, M. A., Ph. D., D. Sc. Dr. hon. causa. Charles C Thomas, Springfield, 1952, 156 pages. Price $5.50.

This monograph is a collection of lectures given by the author as part of a post-graduate course for physicians at the Facultad de Medicina de Montevideo, Uruguay. As the author points out in his "Foreword," the lectures are almost synoptic in form, they contain few references to individual workers and there is no bibliography. A suplementary reading list is given which lists the sources of the material for each lecture. There are no graphs, tables or illustrations of any kind. Quite naturally, the lectures are built around the extensive investigations of the author over a period of many years and emphasize problems in uterine growth, motolity and vascularity and their interrelations. These three classes of mechanisms are shown to constitute a triad of basic functions which fluctuate with variable intensities along the time axes of the sex and reproductive cycles.

While much of the material in this monograph is given in more detail in an earlier book by the same author, new work and concepts are presented in an extremely clear and able manner and the result is an interesting story. Some of the newer concepts of metabolism are related to the activity of the uterus, cervical dilatation is shown to be the result of a gradient of diminishing physiological activity from the fundus to the lower uterine segment and considerable emphasis is placed on the importance of vascularity of the uterus and ovaries and changes in blood supply and vascular patterns at different times and under different conditions. Although the treatment of each phase is brief, the evidence is critically evaluated and conclusions are carefully and guardedly formulated. The lectures taken as a whole are most provocative and stimulating.

H. S. MAYERSON

The Auricular Arrythmias; by Myron Prinzmetal, M. D. and others. Springfield, Illinois, Charles C Thomas Company, 1952, pp. 398, 323 figures (22 in full color). Price $16.50.

This monograph is a compilation of the interesting observations on various auricular arrythmias made by means of high speed cinematography which is correlated with electrocardiographic and oscillographic findings. The data are presented clearly and the numerous figures are quite well reproduced. The diagrams superimposed on photographs add considerably to the clarity of the pre-

sentation for without such identification interpretation by the reader would be impossible.

The authors make a convincing presentation for their concept of the unitary nature of the auricular arrythmias. Certainly in aconitine induced arrythmias and continued electrical stimulation the relationship of auricular premature contractions, auricular paroxysmal tachycardia, auricular flutter and auricular fibrillation seems established as being one of degree or rate. Under the circumstances of the study a circus movement is apparently not present although this does not exclude the existence of circus movement flutter under other circumstances.

The appendix contains a complete description of the method and apparatus used in the studies. The bibliography is extensive.

There is some lack of organization with needless and sometimes monotonous repetition of the controversy with previous investigators. This extends beyond that necessary for emphasis.

There are many small points with which one could disagree and others which are overemphasized even had they been new observations but these are not important in the presentation or in the interpretation of the mechanisms involved. One might question a statement in the preface that unlike the electrocardiogram which is subject to errors in interpretation the approach by means of motion pictures affords an equivocal record of the events as they occur in the auricles. The sense of sight and its subsequent interpretation are subject to error.

The chapters on the clinical aspects of the auricular arrythmias and the pharmacology of the commonly used cardiac drugs are good reviews of these subjects and add to the general value of this monograph which should be of interest to all who are interested in heart disease.

CLARENCE THORPE RAY, M. D.

Advances in Medicine and Surgery from the Graduate School of Medicine of the University of Pennsylvania. Philadelphia, W. B. Saunders Company, 1952. Pp. 441. Price $8.00.

This volume represents a series of short papers on ten subjects by the faculty and guest lecturers of the School of Medicine of the University of Pennsylvania. These papers take the form of symposia: the present status of adrenal cortical hormones; the role of potassium in health and disease; newer aspects of medical and surgical treatment of hypertension; newer concepts in pre-operative evaluation and preparation of patients; thromboembolism; pulmonary infections; the relief of pain; current status of the cancer problems; recent developments in viral diseases; and functional disorders.

These discussions point up many problems each one of current interest. A discussion of basic present day knowledge of cortisone and ACTH is given in the very first group of papers. Then potassium problem is reviewed from normal and abnormal physiologic aspects. The other subjects are similarly treated with emphasis on aspects which are relatively new or of recent interest. For instance there is a paper on pulmonary fungus infection and one on the coxackie views.

In general, this volume is a review of selected subjects presented by authors who are well acquainted with their field of work. It is concise and well written.

PAUL TRAUTMAN, M. D.

Essentials of Dermatology; by Normal Tobias, M. D. 4th ed. Philadelphia, J. B. Lippincott Co., 1952, pp. 596. Price $6.00

The fourth edition in nine years of this manual signifies its popularity and need among medical students and general practitioners for whom it was conceived. The attempt by the author to give the bare essentials of dermatology would have been more successful if incomplete cataloging of rare dermatoses had been deleted and more space devoted to the more common diseases. Revision has included advances in therapy, pathology, and etiology. Nursing requirements of major diseases have been added. Photographs are excellent. This is an admirable teaching text, fulfilling its object which is one of elementary teaching.

JAMES W. BURKS, JR., M. D.

Urine and the Urinary Sediment; a Practical Manual and Atlas; by Richard W. Lippman, M. D. Springfield, Ill., Charles C Thomas, 1952. pp. 124, illus. Price $7.50.

This little volume deals primarily with the proteinuria and the formed elements of the urinary sediment. It is abundantly illustrated with excellent color photographs of many varieties of casts produced by numerous pathologic states. The second half of the book is devoted to the chemical analyses of the common and not-so-common pathologic constituents of the urine as well as a Papanicolau stain of the sediment for malignant cells. This is a very good book for the medical student in clinical pathology as well as the clinician who will find it a great aid in interpreting urinary sediments.

PHILIP PIZZOLATO, M. D.

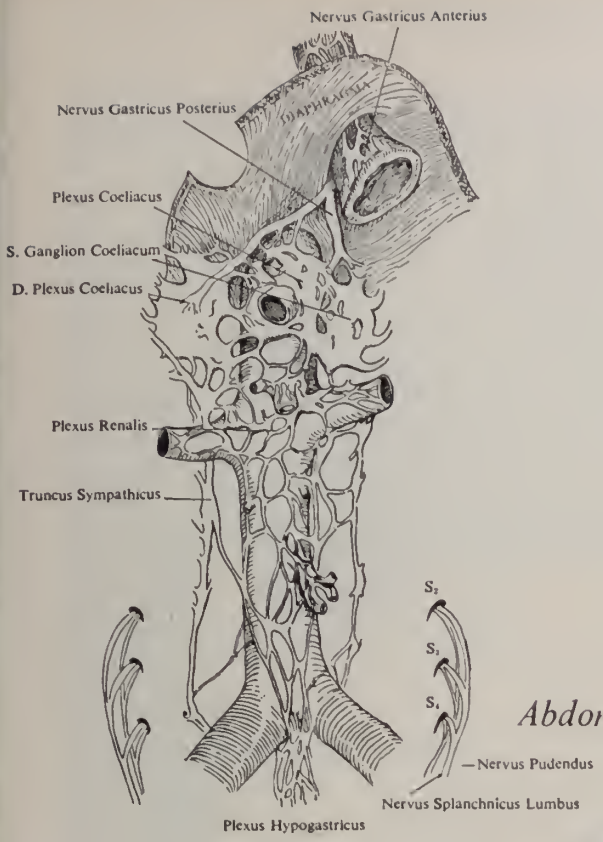
PUBLICATIONS RECEIVED

J. B. Lippincott Co., Phila.: Manic-Depressive Disease, by John D. Campbell, M. D.

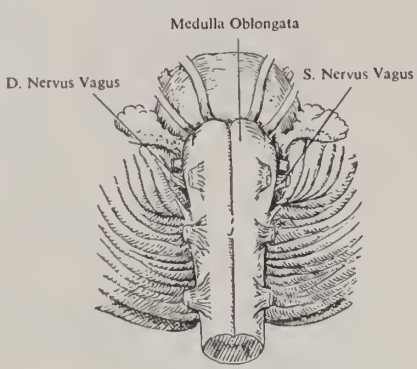
Prentice-Hall, Inc., N. Y.: The Nursing Mother, by Frank H. Richardson, M. D.

W. B. Saunders Co., Phila.: Sexual Behavior in the Human Female, by Alfred C. Kinsey, Wardell B. Pomeroy, Clyde E. Martin, and Paul H. Gebhard.

Charles C Thomas, Publisher, Springfield, Ill.: The Physics of Radiation Therapy, by Harold Elford Johns, M. A., edited by Milton Friedman, M. D.



Central origin of the vagus nerves (parasympathetic)



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1. Zupko, A. G.: Pharmacology and the General Practitioner, GP 7:55 (March) 1953.

2. McHardy, G. G., and Others: Clinical Evaluation of Methantheline (Banthīne) Bromide in Gastroenterology, J.A.M.A. *147*:1620 (Dec. 22) 1951.

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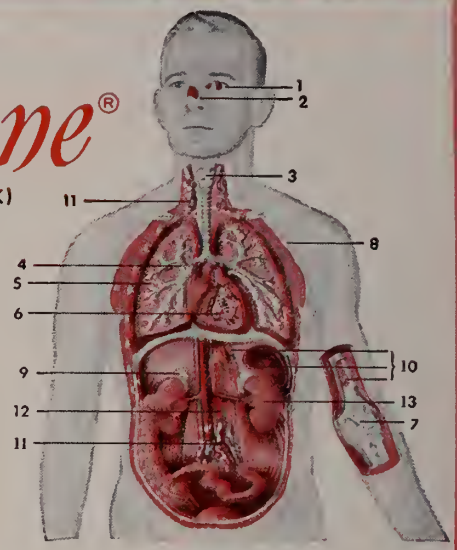

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*Harding, F. E.: West. J. Surg. *52*:31 (Jan.) 1944.

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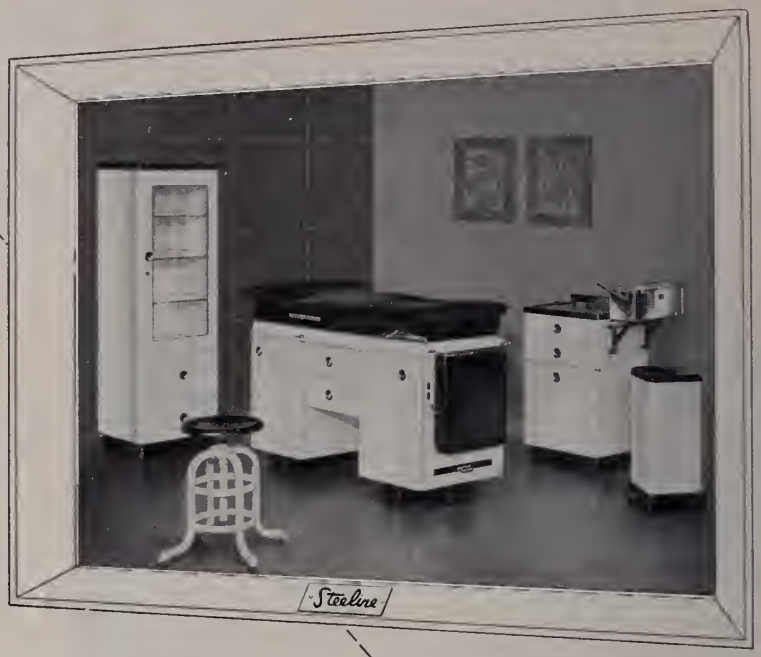

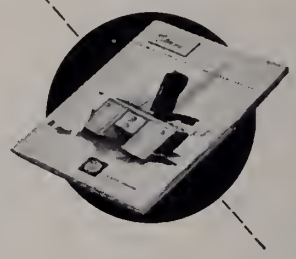

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1. Ferguson, C., and Miller, C. D.: J. Urol. *67*:762 (May) 1952.
2. Trafton, H. M., and Lind, H. E.: Ibid. *69*:315 (Feb.) 1953.
3. Blahey, P. R.: Canad. M. A. J. *66*:151 (Feb.) 1952.

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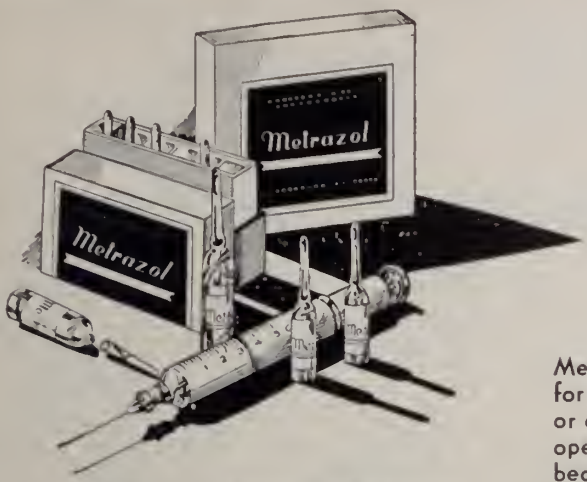

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NOVEMBER 12, 13, 14, 1953

THURSDAY—November 12, 1953

9:00—10:00 A.M.—Registration

10:00—11:00 A.M.—Business Meeting; Election of Officers

11:00—12:00 A.M.—Sir Goeffrey Jefferson, Consulting Neurosurgeon, Manchester Royal Infirmary, Manchester, England

12:00— 2:00 P. M.—Committee Luncheons

2:00— 4:00 P. M.—Panel Discussion: "The Anatomy and Physiology of the Frontal Lobes"

Robert Heath, Moderator, Professor Neurology & Psychiatry, Tulane University

Stanley Cobb, Bullard Professor Neuropathology, Harvard Medical School

Harold Hemwich, Research Director Galesburg State Hospital, Galesburg, Illinois

Gerhardt von Bonin, Associate Professor Anatomy, University of Illinois

A. Earl Walker, Professor Neurological Surgery, Johns Hopkins University

4:00— 5:00 P. M.—Member inventors may present instruments or gadgets

FRIDAY—November 13, 1953

9:00—11:00 A.M.—Panel Discussion: "Psychosurgery: Indications and Sequelae"

A. Earl Walker, Moderator

Stanley Cobb

Gerhardt von Bonin

J. Lawrence Pool, Professor & Director Neurological Surgery, Neurological Institute & Presbyterian Hospital, New York

11:00—12:00 A.M.—Sir Goeffrey Jefferson—Topic Unannounced

12:00— 2:00 P. M.—Committee Luncheons

2:00— 6:30 P. M.—Free Afternoon

6:30— 8:00 P. M.—Cocktail Party

8:00 P. M.—Banquet and Dance

SATURDAY—November 14, 1953

9:00—11:00 A.M.—Panel Discussion: "The Use of Fluids and Electrolytes in the Management of the Neurological Patient"

Hyman Mayerson, Moderator, Professor Physiology, Tulane

Alton Ochsner

J. Lawrence Pool

A. Earl Walker

Walter Wilde, Department Physiology, Tulane

11:00—12:00 A.M.—Sir Goeffrey Jefferson—Topic Unannounced

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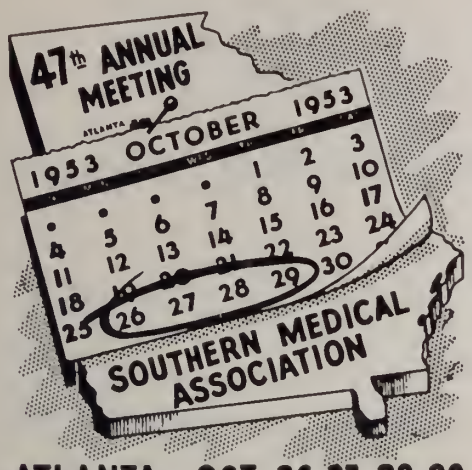

ATLANTA, OCT. 26·27·28·29

For the fourth time in its history, the Southern Medical Association will meet in Atlanta, Georgia.

Physicians of the South are urged to mark the dates of this meeting on their calendars and make every effort to attend this outstanding meeting of the year.

In addition to the forty-seven half-day section meetings covering every aspect of medical practice, there will be a general session, conjoint meetings, many social activities, and fraternal and alumni gatherings—a complete general medical meeting, with all scientific activities under one roof, the Atlanta Municipal Auditorium.

Hotel accommodations for this meeting may be secured by writing: Housing Bureau, Southern Medical Association, 801 Rhodes-Haverty Building, Atlanta, Georgia, giving hotel preference, type of accommodations desired, date and hour of arrival and departure, name and address.

While membership in the Association is not a requirement for attendance at the annual meeting, it affords many advantages, among which is the *Southern Medical Journal*, one of the leading medical publications of today. Membership dues including the Journal are only $10.00 per year. There is no registration fee at the annual meeting.

Members of state and county medical societies eligible for membership are invited to become members of the Association and attend the Atlanta Meeting, which promises to be one of the most successful meetings ever held by the Southern Medical Association.

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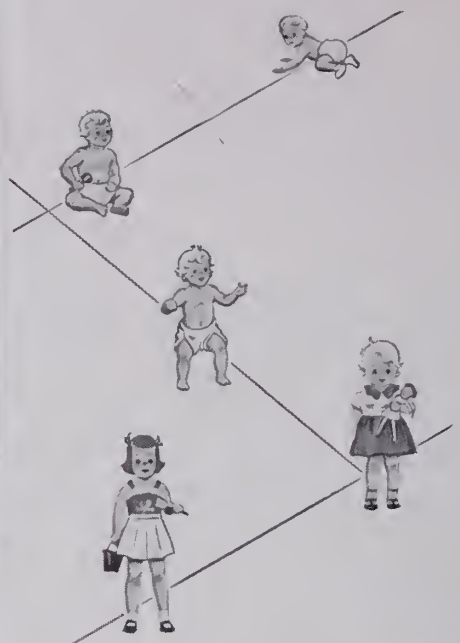

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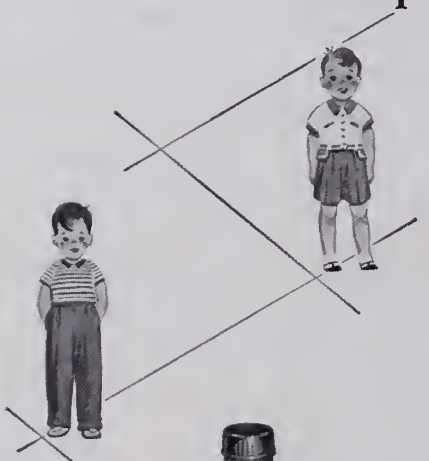

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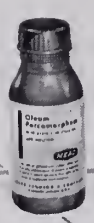

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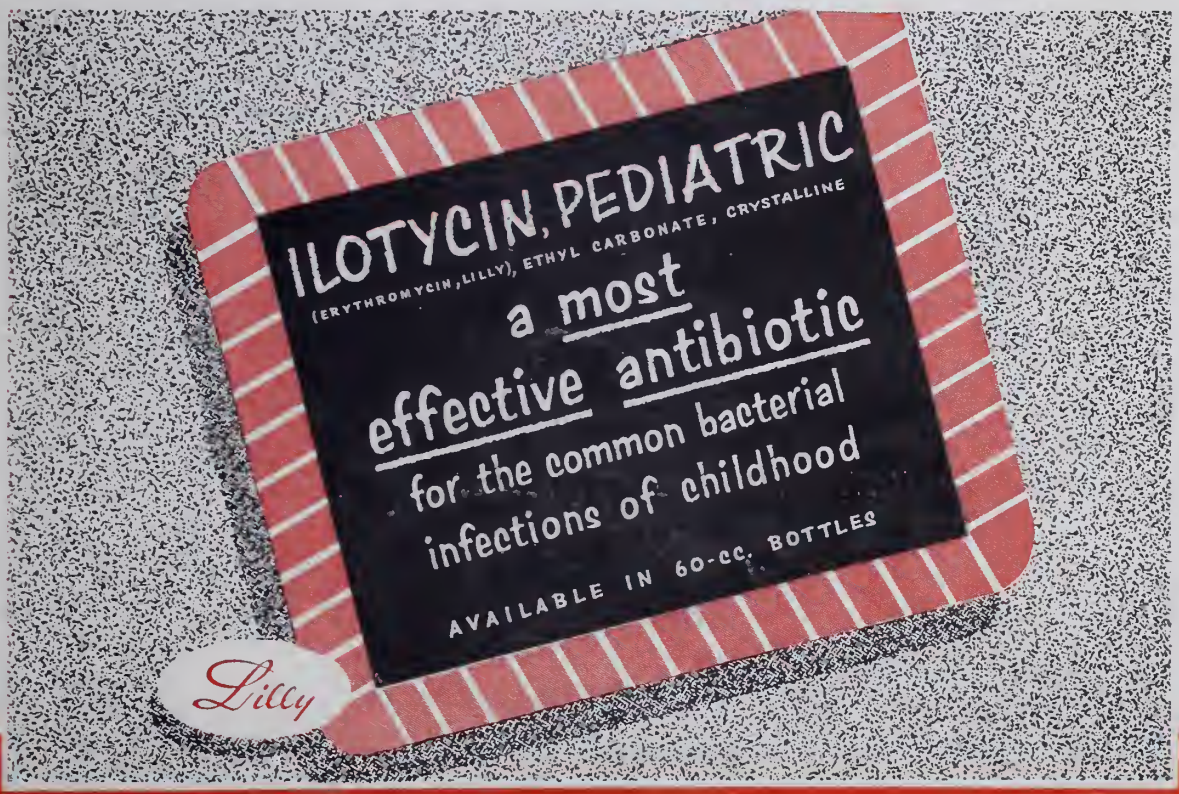

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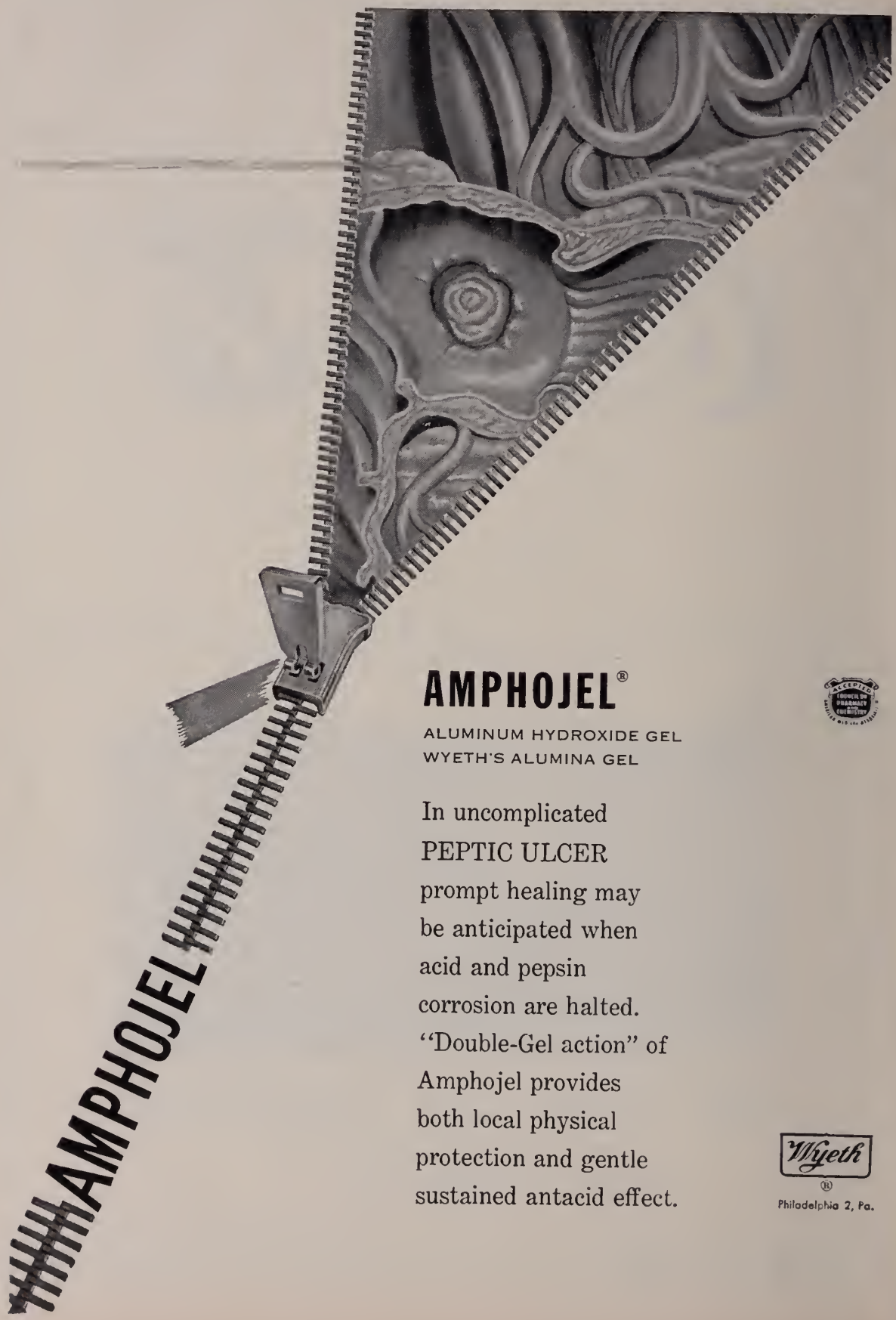

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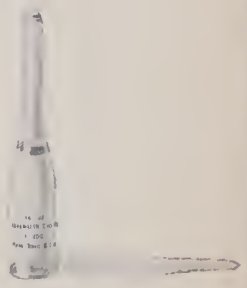

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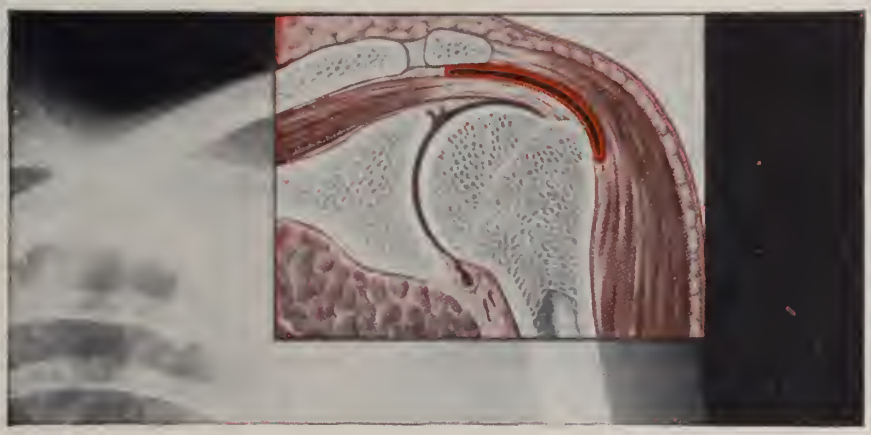

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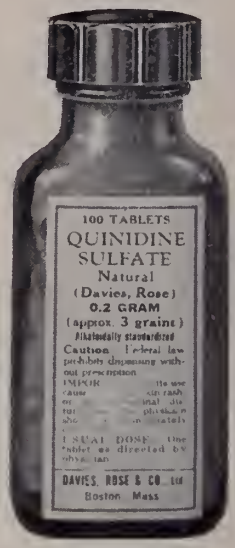

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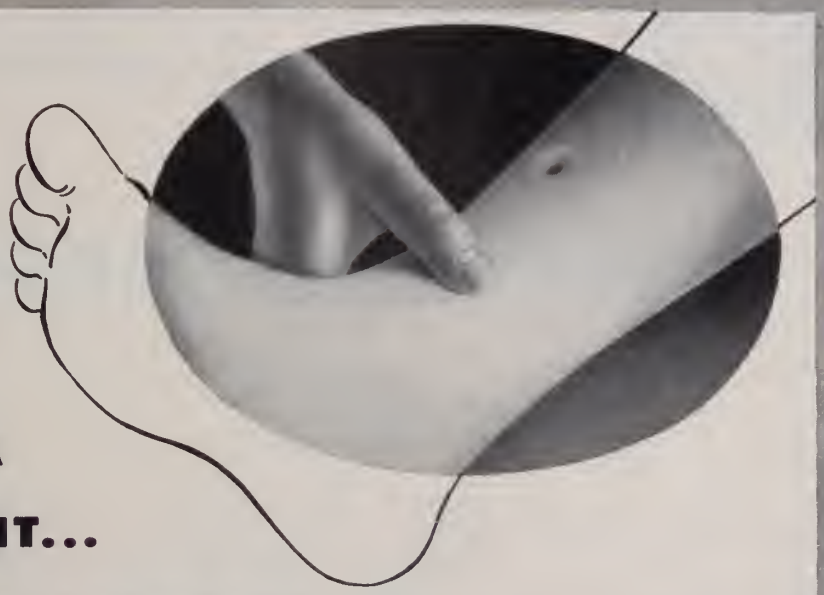

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1. Abramson, Julius, Bresnick, Elliott, and Sapienza, P. L.: *New England Jour. Med.*, 243:44, July 13, 1950.

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1. Drabkin, D. L.: Metabolism of Hemin Chromoproteins, Physiol. Rev. *31*:345 (1951).
2. The Biosynthesis of Hemoglobin, Editorials, J.A.M.A. *150*:1223 (Nov. 22) 1952.

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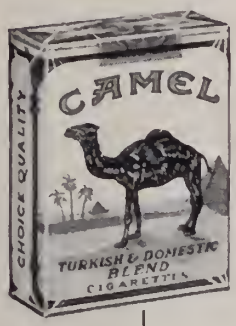

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HEXAMETHONIUM* AND APRESOLINE: THEIR EFFECTS ON AMBULATORY HYPERTENSIVE PATIENTS‡

HOMER J. DUPUY, M. D.†
JOHN J. SIGNORELLI, M. D.†
EDGAR HULL, M. D.†
NEW ORLEANS

This series of cases represents a group of patients with essential hypertension treated with hexamethonium chloride (esomid) and 1-hydrazinophthalazine (apresoline) on an outpatient basis. Our purpose in conducting the study with these drugs was to determine the feasibility of managing cases from the onset on an outpatient basis and to observe the effects of the drug over a reasonable period of time. We readily appreciate the advantages of hospitalizing patients until a supposed safe adequate maintenance dosage has been established, but we also realize the serious obstacles involved in hospitalizing a large group of patients; moreover, it has been shown that so called stabilized maintenance doses of these drugs on hospitalized patients have to be readjusted when these individuals return to their normal routine of life. Because of the rapidity of onset of hypotensive reactions in individuals on fixed doses of these drugs and because of the unreliability of patients attempting to correlate their own blood pressure determinations with changes in dosage, we do not feel that any variation in dosage should be determined by the patient himself on the basis of his taking his own blood pressure. We feel very strongly concerning the advisability of thoroughly familiarizing each patient with the hazards of the drug, the important symptoms and signs of an impending hypotensive reaction, and what procedure to follow when these impending symptoms present themselves. However, reactions may occur in spite of all preventive measures.

Paton and Zaimis[1] introduced a series of polymethylene bistrimethylammonium compounds of which hexamethonium (C_6) compounds are derived. The mode of action of hexamethonium in lowering of blood pressure is in the production of a blockade of autonomic ganglia. 1-hydrazinophthalazine (apresoline) on the other hand acts at various levels on the brain and on the peripheral arterioles. It is also believed that apresoline has the effect of neutralizing humeral pressor substances.[2] One important action attributed to apresoline is that blood flow through the kidneys with and without renal damage is increased, although glomerular filtration is not.[3]

We have followed the generally accepted method of administering these drugs, namely, by giving small initial doses of 250 mg. of hexamethonium every twelve hours in each case. Further increases in dosage and the combination of hexamethonium and apresoline were determined on an individual

---

†From the Department of Medicine, Louisiana State University School of Medicine, and the Hypertension Clinic, Louisiana State University Unit, Charity Hospital, New Orleans, Louisiana.

*Hexamethonium chloride (Esomid) and 1-Hydrazinophthalazine (Apresoline) were supplied for this study by the Ciba Pharmaceutical Products, Inc.

‡Presented at meeting of the Orleans Parish Medical Society, June 8, 1953.

basis, depending on the severity and persistence of reactions, cooperation of the patient, and response of the hypertension. All patients, with the exception of two who discontinued the drug after the first few days, received a combination form of therapy. The average dose for hexamethonium was 500 mg. and 750 mg. alternating at six hour intervals; the average dose of apresoline was 50 mg. at six hour intervals. A few patients in this group were able to tolerate as much as 3 grams of hexamethonium and 400 mg. of apresoline in a twenty-four hour period, the dosage schedule being 750 mg. of hexamethonium and 100 mg. of apresoline every six hours.

TABLE 1
TOTAL PATIENTS —30*

Color	White 13	Colored 17
Sex	Male 9	Female 21
Age	Range 30-60 yrs.	Avg. age 44.7 yrs.

*These patients had been followed previously—some for years.

We have used other drugs and found them wanting — phenobarbital, dihydrogenated alkaloids of ergot, veratrum viride preparations.

TABLE 2
AVERAGE PRETREATMENT BLOOD PRESSURE LEVELS

White	207 mmHg - Systolic
	117 mmHg - Diastolic
Colored	200 mmHg - Systolic
	125 mmHg - Diastolic

TABLE 3
INITIAL RESPONSE—COLORED PATIENTS

	None	Not Significant	Significant
Number of Colored Patients 17	23.5%	17.7%	58.8%
	MAINTAINED RESPONSE		
	None	Not Significant	Significant
*Number of Colored Patients 14	71.4%	21.40%	7.2%

*1 patient was not followed for a sufficient length of time. 2 patients refused the drugs after a significant initial response.

TABLE 4
INITIAL RESPONSE—WHITE PATIENTS

	None	Not Significant	Significant
Number of White Patients 13	7.7%	7.7%	84.6%
	MAINTAINED RESPONSE		
	None	Not Significant	Significant
*Number of White Patients 10	20%	70%	10%

*3 patients refused the drugs after significant initial responses.

TABLE 5
OVER-ALL RESULTS

Initial Response			Total Patients 30
NONE	NOT SIGNIFICANT	SIGNIFICANT	
16.6%	*13.3%	70.1%	
Maintained Response			Total Patients 24
NONE	NOT SIGNIFICANT	SIGNIFICANT	
50%	41.6%	8. 4%	

Reports from medical literature indicate varied responses to these drugs over long term periods of treatment. Enthusiastic reports by Schroeder[2] using a combination form of therapy with hexamethonium and apresoline, and by Moyer[3] using apresoline alone, have added impetus to the accounts of beneficial results obtained in treating hypertension. It is true that these authors used larger doses of apresoline than our group of patients were able to tolerate. On the other hand J. D. Blainey[4] reporting on a group of 34 patients with severe hypertension using hexamethonium in dosage varying from 2 to 6 grams a day reported that all patients after a nine month period showed a return of blood pressure to pretreatment levels; however, during this period all patients showed some degree of hypotensive effect. M. A. Khan[5] reported similar results, using apresoline alone in doses as high as 1200 mg. daily, and in combination with hexamethonium, the dosages being 450 mg. of apresoline and 2250 mg. of hexamethonium daily.

TOXIC EFFECTS

Five patients or 16.6 per cent of the group of 30 patients refused to take the drugs after significant initial responses. This was done in spite of reassurance that the symp-

toms might only be of temporary duration. Unpleasant reactions that precipitated voluntary discontinuance of the drug consisted predominantly of postural dizziness, blurring of vision, weakness and headache. Constipation was a minor complaint. Twenty-four, or 80 per cent of the total of 30 patients had some side reactions, usually during the first few weeks of therapy. Two patients, or 6.6 per cent of the group, had one or more syncopal attacks during the course of treatment—and in both cases the attacks occurred well along during the course of therapy—six weeks after beginning treatment.

CONCLUSION

Our experience with drugs used in the therapy of hypertension leaves us with no doubt that both hexamethonium and apresoline are very potent hypotensive agents. Of the two hexamethonium is the more potent. Both are effective in the majority of cases in producing an initial fall in blood pressure. It is impossible, however, to predict in which patients there will be a hypotensive effect, and it is likewise not possible to determine the duration of the efficacy of these drugs on a long term basis when a hypotensive effect is obtained.

While we are very much encouraged by the hypotensive effects of these drugs, there still remains much to be desired as regards their fulfilling the requirements of an ideal drug for the therapy of essential hypertension. The rather significant fluctuation in blood pressure of patients on these drugs, the severe symptomatology associated with hypotensive levels or a rapid fall in blood pressure, the failure of these drugs to maintain a sustained relative hypotensive effect on a significant number of patients on a normal every day routine, and most important the failure of these drugs to continue to exert their effects over a reasonably long period of time—are some of the obstacles that must be surmounted in order to approach the goal of a better therapeutic regimen for the hypertensive patient.

It is our belief that hypertensive patients can be treated with these drugs on an ambulatory basis with the understanding that these individuals are thoroughly informed regarding side effects and the symptoms of an impending severe hypotensive episode.

REFERENCES

1. Paton, W. D. and Zaimis, E. J.: Clinical potentialities of certain bisquaternary salts causing neuromuscular and ganglionic block, Nature 162:810 (Nov. 20) 1948.

2. Schroeder, H. A.: The effect of 1-hydrazinophthalazine and hexamethonium on hypertension, J. Lab. & Clin. Med. 38:949, 1951.

3. Moyer, John H.: Hydralazine (apresoline) hydrochloride. Arch. Int. Med., 91:419 (April) 1953.

4. Blainey, J. D.: Hexamethonium compounds in the treatment of hypertension, Lancet 1:993, 1952.

5. Khan, M. A.: Effect of hydralazine in hypertension. British M. J. (Jan. 3) 1953.

THE ROLE OF POTASSIUM IN DIABETIC ACIDOSIS*

MORRIS J. WEISLER, M. D.
NEW ORLEANS

The elucidation of the role of potassium in diabetic acidosis on a clinical level is a relatively recent development which has served to pinpoint a clinical dictum which has been well known and regularly applied for many years—feed them early, particularly with tomato juice, orange juice, bouillon or other meat extracts, thus supplying fluids and "other factors." With greater knowledge, one of these "other factors" of considerable importance has been found to be potassium, thus furthering our understanding of the pathogenesis of previously vaguely understood cases of resistance to therapy. Let me emphasize that this is not the only factor responsible for these recalcitrant cases. Knowledge of the vital role of potassium in these patients only serves to reduce their number.

Gamble's succinct diagrams[1] will serve to define the chemical anatomy of our ion: (Figure 1). Here we see the marked difference in the concentrations of intracellular and extracellular potassium on either side of a semipermeable membrane which, on the basis of the physical characteristics alone of the cell membrane, would be expected to result in an equilibrium at approximately equal concentrations. This marked

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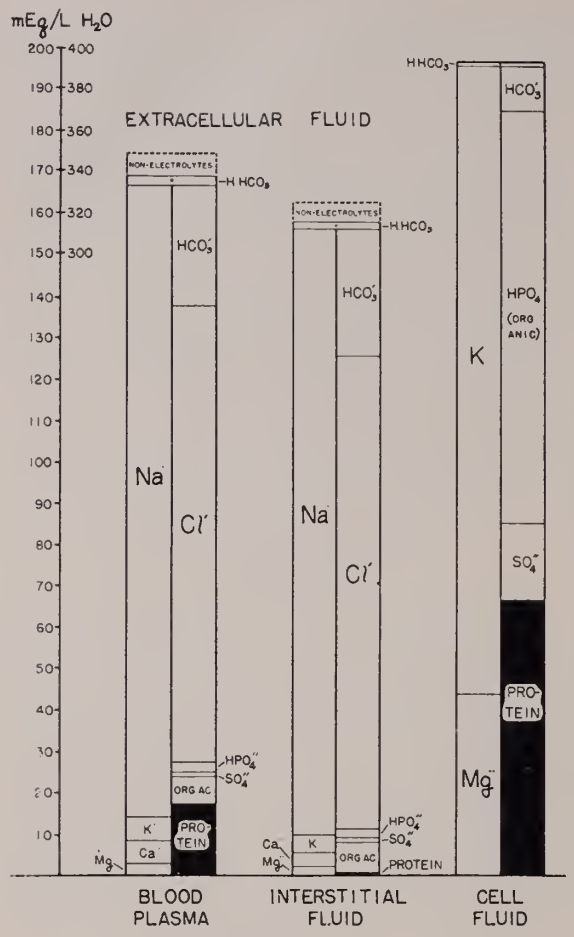

Figure 1

shift in the point at which the equilibrium is maintained is attributed to the "vital" function of the cell membrane, which implies a living cell.[2] As will be seen later, changes in either direction of the concentration of the extracellular potassium, which represents a very small fraction of the total body potassium, will produce profound changes and even death in the type of cases under consideration.

The following simplified diagrams (Figure 2), will permit a more rapid review of the more important factors involved in maintaining the concentration of the extracellular or serum potassium; the capillary membrane, acting only as a semipermeable membrane, not being important in our consideration of potassium, and therefore, not being included in the diagrams. In the normal individual in health, the concentration of extracellular potassium is maintained by

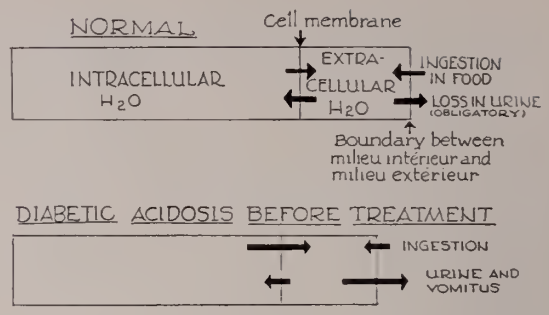

Figure 2

the equilibrium at the cell membrane and the balance between the ingestion and urinary loss of potassium.

With the development of diabetic acidosis, potassium is lost in increasing amounts by the urinary route[3] (until and if progression occurs to shock and oliguria), and frequently vomiting occurs with its further loss of potassium (which is about three times as concentrated in gastric juice as in the serum[4, 5]). The movement of potassium through the extracellular fluid volume is such as to maintain a normal or elevated serum potassium concentration.[6] But the administration of insulin (Figure 3)

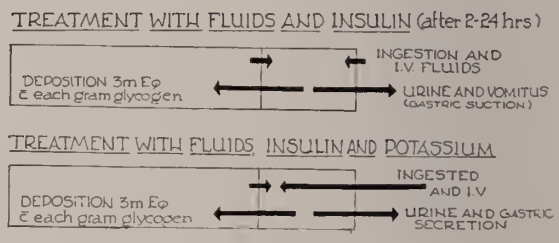

Figure 3

markedly changes the direction of the shift of potassium across the cell membrane, since animal experiments have indicated that approximately three millequivalents of potassium must be shifted into the cells for each gram of glycogen deposited,[7-9] a toll which could, and does, rapidly (within two to twenty-four hours) reduce the serum potassium to levels which can be consistently demonstrated to be low by quantitative determination, and are frequently clinically demonstrable by the following, in order of appearance (Figure 4).

1. Electrocardiographic changes.
   a. Lengthened QT interval, being pri-

CLINICAL RECOGNITION OF HYPOKALEMIA-

1) ECG changes to
2) Fall in blood pressure
3) Loud systolic precordial murmur
4) Ascending skeletal muscle paralysis

Figure 4

marily prolonged by a low, broad, frequently notched T wave.

b. Depressed ST segments.

2. Fall in blood pressure, particularly diastolic, but eventually systolic also, these readings being a reversal of the direction of change of the blood pressures recorded as the frequently associated initial shock picture is corrected in the first several hours of treatment.
3. Loud systolic precordial murmur.
4. Ascending skeletal muscle paralysis, ranging from general weakness only (most frequent), to demonstrable flaccidity involving first the extremities, then the trunk, and finally the diaphragm and intercostal muscles of respiration, producing the typical fish-mouth gasping for breath because of the sole reliance on the accessory muscles of respiration in the neck. However, not infrequently, isolated and relatively small muscle groups, as of the eye, are involved.

Usually we can start feeding our patients in two to twelve hours and furnish enough potassium to satisfy the metabolic needs of glycogen deposition. (Figure 3). If the usual feedings are not sufficient to prevent the development of evidence of hypokalemia, or lowered serum potassium, then (Figure 5) 2 grams of potassium chloride or citrate may be given by mouth every thirty minutes until 8 to 18 grams are given. However, gastric dilatation and persistent nausea and vomiting only too frequently make this route impractical, and we must resort to the subcutaneous or intravenous route. At this point let me emphasize that a good

TREATMENT of HYPOKALEMIA

I ORAL
- A) Soft diet containing foods rich in potassium.
- B) 2 gm. KCl or citrate every 30 mins. until 8-18 gms. are given.

II. HYPODERMOCYLSIS
- A) Most satisfactory
- B) Isotonic (1.14%) solution of KCl or diluted with equal parts of physiological saline.
- C) 30 c c of 22.3% KCl (2.23 gms. or 30 m Eq/10 c.c) added to a liter of parenteral fluid.
- D) Do not use hyaluronidase.
- E) ECG before and after each 500 c.c.

Figure 5

output of urine should be obtained before the administration of potassium is undertaken, with certain exceptions which need not be entered into in a presentation of this brevity.

Administration of potassium by hypodermoclysis is most satisfactory from the point of view of ease and safety. An isotonic (1.14 per cent) solution of potassium chloride can be used as such, or preferably diluted with equal parts of physiological saline,[10] as reported from other institutions, but at Touro Infirmary a stock solution of 22.3 per cent potassium chloride (2.23 grams or 30 millequivalents per 10 cc.) or of buffered potassium phosphate (5 cc. of 13.6 per cent potassium acid phosphate and 5 cc. of 43.5 per cent potassium basic phosphate constituting a mixture also containing 30 millequivalents of potassium per 10 cc.) is used, about 30 cc. being added to a liter of whatever parenteral fluid is being administered. If hyaluronidase is not used, it is generally safe to check the electrocardiogram after every 500 cc., thus insuring only a return to a normal QT interval and T wave configuration, and not a swing to the opposite extreme of evidence of hyperkalemia, with the following sequence of changes in order of appearance. (Figure 6): A shortened QT interval and tall, peaked T wave, then a broadening of the QRS complex, marked primarily by the appearance of, or broadening of a previously present S-wave, and the prolongation of the PR to the point of heart block, and lastly the sine

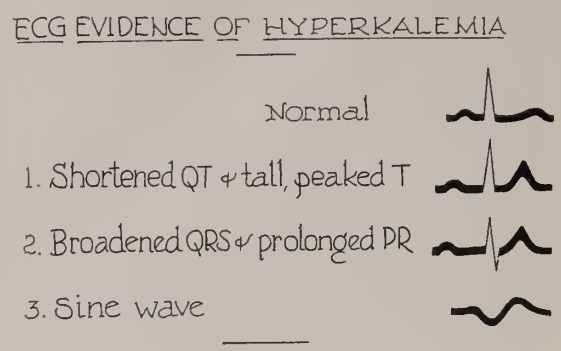

Figure 6

wave just prior to death. Without electrocardiographic control we are interested in administering only enough potassium to correct the blood pressure changes, precordial murmur, and skeletal muscle symptoms previously described.

The route of administration which is indicated in patients with evidence of marked hypokalemia (as when ascending paralysis, and particularly "fish-mouth" type of respiration, have developed), is the intravenous one (Figure 7), but this requires the

TREATMENT of HYPOKALEMIA (cont'd)

III. INTRAVENOUS

A) Necessary with evidence of severe hypokalemia.

B) Requires constant attention of physician and ties up ECG machine.

C) 30 to 50 c.c. of 22.3% KCl/L at 60-120 gtts/min. at first.

D) Adjust rate by frequent ECG checks

Figure 7

practically constant attendance of a physician with a direct writing electrocardiograph machine for frequent checks of the effects of the serum potassium on the electrocardiogram. For it must be remembered that the transfer of potassium from the extracellular to the intracellular fluid volume is a function of a viable cell membrane, and the time factor is an important consideration—administration of potassium more rapidly than it can be cleared from the extracellular fluid volume results in toxic concentrations which can, and have, resulted in death of the patient in cardiac standstill or ventricular fibrillation. Unfortunately, the "clearance rate" is not predictable from patient to patient, or always in the same patient, so that only approximate rates of administration can be initiated, and control must be exercised by the previously listed criteria. We add from 30 to 50 cc. of our 22.3 per cent potassium chloride solution to a liter of whatever infusion other considerations in the particular patient may indicate, and start with a rate of administration of about 60 to 120 drops per minute, subsequent adjustments being based on the electrocardiographic changes checked at first at five minute intervals, and, when the electrocardiogram has improved to approximately normal, decreasing the rate of administration by about one-third to one-half, and checking further until a rate of administration is determined which maintains a stable and relatively normal electrocardiogram, after which the interval between electrocardiographic checks is gradually increased and the potassium administration is changed to the oral or clysis routes. Usually after twenty-four to forty-eight hours the patient is eating enough to permit adequate control with one or two electrocardiograms per day for a few more days.

CASE REPORT

In August, 1950, a 12 year old girl, a known diabetic since 4 years of age, was brought into the hospital at 9 A. M. in a diabetic coma, responding only to painful stimuli. In addition to the marked dehydration expected, it was also noted that her blood pressure was about 100/60, and reflexes were present in all extremities. Intensive fluid, sodium chloride, and insulin therapy was instituted. However, diuresis progressed at such a rate that after four hours the patient appeared almost as dehydrated as when first seen, despite the fact that she responded somewhat to questions and moved about in bed so as to appear improved clinically. About 2 P. M., after five hours of therapy, it was noted that the patient was moving about less, seemed to have lapsed into coma again, and that the diastolic blood pressure was down to zero. About 3 P. M. reflexes were not obtainable, and a loud systolic precordial murmur was heard for the first time. About 4 P. M. a gasping "fish-mouth" type of respiration was noted, and the patient appeared moribund. Institution of intravenous potassium chloride therapy raised the diastolic blood pressure to her normal, eliminated the systolic precordial murmur, and produced a return of extremity re-

flexes and more normal respiration in thirty minutes to one hour. Although electrocardiographic corroboration of the various stages in the above clinical pictures was obtained, it can be seen that there was a wealth of clinical signs upon which diagnosis and therapy could be based.

SUMMARY

In summary let me emphasize the following points:

1. The role of potassium in diabetic acidosis has been established on a clinical and working basis so that diagnosis and treatment can be accomplished at the bedside by signs and symptoms in a given context.

2. Because of the inevitable physiological concomitants of this process, potassium can and should be administered orally or parenterally about four to six hours after therapy has been instituted, if adequate diuresis has been obtained.

3. The intravenous administration of potassium is dangerous. Those who are not familiar with the possible complications and who do not have adequate control facilities had best never apply this route for the administration of large amounts of potassium in a short period of time.

REFERENCES

1. Gamble, J. L.: Chemical Anatomy, Physiology and Pathology of Extracellular Fluid, 1942.

2. Neubauer, R. A., and Frelick, R. W.: Spontaneous hyperpotassemia as a cause of death in diabetic acidosis, Am. Heart J.: 40:793, 1950.

3. Atchley, D. W., et als: On diabetic acidosis: detailed study of electrolyte balance following the withdrawal and re-establishment of insulin therapy, J. Clin. Invest. 12:297, 1933.

4. Austin, J. H. and Gammon, G. D.: Gastric secretion after histamine: Sodium and potassium content and pepsin estimation, J. Clin. Invest., 10:287, 1931.

5. Frenkel, M., Groen, J., and Willebrands, A. F.: Low serum potassium level during recovery from diabetic coma, Arch. Int. Med., 80:728, 1947.

6. Nadler, C. S., Bellett, S., Reinhold, J. G., Lanning, M.: Alterations in the serum potassium and their relation to certain constituents of the blood in diabetic acidosis, Am. J. Med. Sci., 218:308, 1949.

7. Fenn, W. Q.: The deposition of potassium and phosphate with glycogen in rat livers, J. Biol. Chem., 128:297, 1939.

8. Boyer, P. D., Lardy, H. A., and Phillips, P. H.: The role of potassium in muscle phosphorylations, J. Biol. Chem., 146:673, 1942.

9. Aitken, R. S., Allott, E. N., Castleden, L. I. M., and Walker, Mary: Observations on a case of familial periodic paralysis, Clin. Science, 3:47, 1937.

10. Nadler, C. S., Ballet, S. Gazes, P. C., and Steiger, W. A.: Administration of potassium to patients with prolonged vomiting and diabetic acidosis, J. Lab. & Clin. Med., 35:842, 1950.

DIABETES IN CHILDHOOD*

EDWIN L. RIPPY, M. D.
DALLAS, TEXAS

Diabetes occupies a unique position in the field of medicine in that it is one of the very few disorders that may have its onset at any age—from the toddling babe to the octogenarian. Though the abnormal physiology is basically the same regardless of age, the clinical picture and the response to therapy vary so greatly in the various decades that it is necessary to give special consideration to age groups, more particularly to children.

I know of no case on record of a child born with diabetes, yet there are reported cases of onset at nine weeks and thereafter. It is difficult to estimate the number of juvenile diabetics in this country. The National Health Survey revealed that under age 15, one child in 2500 has diabetes. Joslin suspects that there are 60,000 diabetics now living whose disease began in childhood—this would seem conservative.

Sir William Osler in his textbook of 1892 stated: "In children the disease (diabetes) is rapidly progressive, and may prove fatal in a few days." This was literally true before the days of insulin, and is still true unless informed parents recognize early symptoms and astute doctors make an early diagnosis and institute therapy immediately. Childhood diabetes proceeds invariably to acidosis, coma, and death within from three to twelve months unless treated with insulin.

ONSET

The onset of diabetes in children is most often relatively abrupt and dramatic. Though varying in detail, a typical case will run something like this: The child will probably be sturdy, healthy, and of normal weight, and parents will likely as not be nondiabetic. There may have been an acute illness in the immediate past. Almost simultaneously there will develop the classic quartet of symptoms: (1) an increase in appetite (though this may be negligible),

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accompanied by (2) a paradoxical weight loss that, at its height, may amount to a pound a day, (3) an unquenchable thirst that may result in the consumption of 3 to 4 gallons of water a day and a resultant (4) polyuria. These symptoms tend to progress. The child appears literally to spend his time going from ice box to water fountain to bathroom! If these symptoms are not interrupted within one to two to three weeks by proper treatment, there will usually develop apathy, irritability and drowsiness.

Most alert parents will bring the child for examination during this time. The patient will present an ill appearance—has become underweight, lifeless and dehydrated. The urine will invariably show strong glycosuria and ketonuria, and a confirmatory blood sugar, which may be taken at any time during the day, will be high, usually in excess of 300 mgm.%. The child is in mild acidosis and institution of treatment at this time will avoid dread diabetic coma which, in due time, would inevitably ensue. Therefore, whereas in adults the onset of clinical diabetes may be ironically insidious manifesting itself in terms of months and years, in children the problem is one of days or weeks, though one child reported by Colwell, age 12, had an onset of four years. Often the diagnosis may present difficulties in adults, requiring a glucose tolerance test for confirmation; rarely is such true of children. The diagnosis may be made in 99 per cent of cases from the simple urine specimen. As a matter of fact, when the diagnosis is in doubt in a child, diabetes is usually not present. However, renal glycosuria is occasionally seen in which there is glycosuria with normal blood sugars. In these cases galactosuria should be ruled out by fermentation studies. Obviously, there are many variables in the typical case described above. In general, the younger the child the more rapid and vicious the onset. However, regardless of age, the facts remain the same—the difference being one of timing.

I know little of true infantile diabetes, this discussion being that of children from two years and on. Farrell, Hand, and Newcomb of Children's Memorial Hospital in Chicago have reported a series of 7 cases of diabetes in infants with sudden onset involving chills, fever, stupor, nuchal rigidity, rales in the chest, and other evidences of an acute febrile illness. Diagnosis in each instance was unsuspected and the mortality was high in spite of treatment.

The child whom you have just found to have diabetes is literally dying. There are methods at your disposal which will save his life but it will take a great deal of your time, your patience and your knowledge. This will prove to be a relatively unremunerative case. For the next few days you will spend much time in altering this vicious sequence of events and in orientating the confused and disturbed parents, not to mention the tedious hours of instruction as you literally become the life-long guardian of this child's physical and emotional development. If you do not wish to undertake this obligation, refer the child to someone who does.

In the younger child the parents are obligated to learn the facts of control; the child, however, being taught to do urine testing and even to give his own insulin as early as possible. A diabetic child is reared as all children should be. They must not be treated as afflicted children. They must be taught at an early date self discipline and self reliance. They tend to develop a sense of responsibility and to mature earlier than the average child. When well controlled, they are a healthy lot and tend to be above the average in general intelligence. The petted, spoiled, overprotected diabetic child will eventually destroy himself as adulthood tends to separate him from parental protection. Actually, however, the diabetic child, if given half a chance, adapts himself amazingly well to his disorder much to the surprise of all concerned.

Back, however, to the clinical picture of the just diagnosed diabetic child and a few suggestions regarding control measures to be employed. It is essential that the patient be hospitalized immediately upon diagnosis. The period of control can be divided into

three rather definite periods, lasting approximately six weeks:

THREE PERIODS OF CONTROL

1. Establishment of diet and insulin to overcome glycosuria and ketonuria. Rapid relief from symptoms will be noted and weight gain commence—takes about *one week*.
2. Period of metabolic recovery. The child will continue to improve subjectively and objectively. There will develop a progressive improvement in tolerance for glucose, and insulin will be judiciously reduced from its high peak. Hypoglycemia must be avoided. Lasts *two to three weeks*.
3. Period of stabilization—insulin requirement becomes relatively constant—*one to two weeks*.

This child, if not vomiting, should be placed on an appropriate diet for his age at the onset. A child's food needs are relatively great and though there are charts available with calculated diets for various age groups, the following rules are practical and helpful:

FOOD REQUIREMENTS FOR CHILDREN

1. Total calories per day will average 1000 plus 100 for each year of age.
2. Protein requirement should average approximately 2 grams per pound per day or about 20 per cent of total calories (50-70 grams).
3. Carbohydrate intake should constitute approximately 40 per cent of the total calories. (Average 140-200 grams).
4. Fats are added in amount to complete caloric need.

There is a certain trial and error factor in the regulation of a child's diet. Once the basic diet is established, changes can be made depending on appetite and weight response. It is likely that when the child's appetite levels off after four to six weeks, the diet may have to be reduced. Further, inasmuch as a formal diet is desirable at all times, a growing child's diet should be recalculated yearly. The measured diet is satisfactory though weighing food at the onset is good training for both mother and patient.

There are several different opinions as to the best insulin for children and as to the distribution of the food. I have a strong feeling that Type NPH insulin gives by far the best coverage in children and, if used, the food should be distributed with this insulin in mind. Suggested distributions are:

DISTRIBUTION OF THE DIABETIC DIET FOR CHILDREN

Breakfast	Lunch	Snack	Supper	Bedtime Snack
1/5	2/5	Yes	2/5	Yes
		OR		
1/3	1/3	Yes	1/3	Yes

The snacks should be protein and or carbohydrate foods of about protein-5 grams, carbohydrate-15 grams value.

INSTITUTION OF INSULIN THERAPY

When the control is first instituted, it is best to use unmodified insulin "on demand" for the first few days. An appropriate plan would be to collect urine specimens every four hours day and night and give regular insulin as follows:

If urine is 4 plus give 16 units
If urine is 3 plus give 12 units
If urine is 2 plus give 8 units
If urine is 1 plus give 4 units

As clearing of sugar appears, the night specimens may be gradually omitted. One is always surprised at how much insulin a child will need daily at the onset—80 units plus or minus not being unusual, the need decreasing by the day. The extreme sensitivity of infants to insulin must be remembered, however, their dosage of insulin being calculated in tenths of a unit. As the insulin dosage appears to level off, one should switch to Type NPH insulin, giving a total morning dose of approximately three-fourths the total regular insulin of the last day. From this point on it is a matter of watching urine specimens before each meal and bedtime and altering insulin as judgment dictates. It is unwise to supplement with regular insulin except in the morning and even then it is risky. Children react badly to venepuncture and blood sugars are of little value until the urine specimens are relatively clear. The micro-method of calculating blood sugars is better in children.

Usually a child's initial hospitalization will last seven to fourteen days, the first stage of control having been completed. Thereafter, at home the mother will be obligated to lower insulin gradually, depending on q.i.d. urine specimens. In fact, one must anticipate the expected increase in tolerance and lower the doses, perhaps daily, *before* the specimens become all negative. Most children may be well regulated on one morning dose of NPH insulin; awkward insulin schedules are to be avoided. The daily insulin dose will vary with the child, some 5 and 6 year olds doing well on 6 to 12 units per day. It has been said that, on an average, a child when well controlled will require an insulin dosage that may be calculated by multiplying his age by 3. However, there are no dependable rules and the final maintenance dose will have to be determined in each individual case.

It is well to mention at this point that hypoglycemia is to be carefully avoided in children. The episode is sudden and dramatic in onset and recent observations indicate that irreparable brain damage may occur resulting in permanent mental retardation, epilepsy, and spastic paraplegia. During the period of control it is the doctor's responsibility not to overdo the insulin; later the child must be taught the symptoms of early insulin shock and should carry lump sugar to use in emergencies. In the event that coma should ensue as a result of hypoglycemia, 0.5 ml. of epinephrine should be given immediately and followed by a conservative amount of glucose intravenously.

During the initial control period a search should be made for infection and if even suspected, daily penicillin is indicated. Throughout the child's life all infections, either localized or systemic, should be considered emergencies as these are the most common precipitating causes of diabetic coma in children. During infection, regardless of appetite, insulin need almost invariably increases and this fact, together with the uncertainty of constant food intake, suggests that it is a good plan to discontinue modified insulin and return temporarily to "insulin on demand" as indicated every four hours. Certainly the ketonuria should be carefully watched.

There are several general considerations worth remembering. A child's control should be maintained as close to normal as possible yet it is unsafe for him to have a constantly negative urine specimen; to spill sugar once or twice a day is acceptable. Exercise tends to upset the balance toward hypoglycemia and requires extra food. On the other hand, an emotionally disturbed child may begin to spill sugar and ketone bodies and may require temporary increase in insulin. There is no place in the life of a child diabetic for the so-called "free diet" advocated by those who believe hyperglycemia is a relatively unimportant feature of the disease. We cannot, however, completely disregard the honest concept of Guest that moderate hyperglycemia is acceptable and does not hasten complications. It is to be hoped that this controversy may be clarified in time. If we are to believe Joslin's thought that perfect control (impossible) will prevent complications, and on the other hand are to avoid hypoglycemia, then literally a balanced child diabetic is a bit like a tight rope walker!

In due time the diabetic child will develop a remarkable degree of balance with insulin changes required infrequently. However, it is to be remembered that diabetes is not a static state and one must watch for sudden unexplainable changes in tolerance and alter insulin early. Diabetes, previously easy to handle, will become erratic in its behavior at puberty and require special attention involving insulin increases. Teen-age diabetes is perhaps the most difficult of all to handle both because of intrinsic changes in the diabetic state and because the youngster is in a period of emotional unrest and social development with oft times a resultant resentment toward the self discipline imposed by his disorder plus some self consciousness. The instinct to be "one of the gang" is often greater than that of self preservation and he is likely to

break "training rules." Then, he is badly in need of counseling and encouragement.

EMERGENCY TREATMENT

Most children are at least mildly acidotic by the time the initial diagnosis of diabetes is made. The symptoms of such will respond promptly to therapy as before outlined. Unfortunately, however, some drift into the entirely preventable complication of profound acidosis resulting in coma. Treatment is indicated on an emergency level to preserve life. Such treatment follows the basic principles outlined for adults with a few reservations. An outline of recommended procedure follows:

1. Hospitalization is mandatory.
2. A catheter, if indicated, is inserted and left in place and urine specimen collected by the drop method every two hours.
3. If the patient has received no insulin in six to twelve hours, he is given I unit of insulin per pound of body weight. One half of this amount may be given intravenously if the patient is in shock.
4. Intravenous physiological saline is instituted immediately and given as rapidly as tolerated. After one to two hours, 5 per cent glucose in saline is substituted and administration is reduced to 400-800 ml. per hour.
5. Depending on the condition of the patient, regular insulin is given every three to four hours in doses of 1 unit for each 3 to 4 grams of glucose administered or "on demand" as follows:

   ++++ 16 units
   +++ 12 units
   ++ 8 units
   + 4 units
6. If food is not taken within six to eight hours, 1 to 2 grams of potassium chloride may be added to the intravenous mixture.
7. When food is tolerated, the amount is dictated only by the patient's appetite and regular insulin is continued as above at four and then six hour intervals. In due time an appropriate diet is prescribed and NPH insulin started as a single morning dose.

Blood sugar determinations are not particularly helpful, the urine tests for both sugar and ketone bodies being a dependable guide for insulin administrations and evaluation of progress. Actually the *p*H of the blood is a more critical index and its use as a guide is becoming more popular. The insulin requirement will remain relatively high for some period of time after an episode of acidosis. Some recommend the use of alkaline therapy if the CO_2 combining power is below 20 volume per cent (using either sodium bicarbonate or Hartmann's solution.) In my experience these have been unnecessary.

LONG TERM CONTROL

I once erroneously thought a diabetic on a reasonable amount of insulin, though poorly controlled, would not go into diabetic coma. However, I have seen innumerable examples of such happening. Contributing circumstances are long term poor control with inadequate insulin onto which is superimposed either infection, neglect to take insulin a day or two, or an emotional upset. The need for all diabetic children to have urine checked 4 times a day for sugar and once a day for ketone bodies is again emphasized.

Fortunately, today, children do not die in diabetic coma, thanks to Banting and Best, and our attention is directed toward the long-term followup of the diabetic child. What are his prospects and what does he have to look forward to? Certainly the outlook is encouraging. Much credit is due the Joslin group for teaching throughout the years the value of close control of the diabetic in an effort to minimize complications, but only recently did I hear Marble state that it is their feeling that optimum control may even *prevent* complications. Unfortunately, this is probably an overly optimistic statement. Obviously, no one has been on insulin over thirty years and that number is unknown. It will take thirty more years to evaluate th life expectancy of children. It is difficult or impossible to maintain "perfect control" throughout a child's years of growth and development. I know many young people who have been on insulin twenty to thirty years. Some show

retinal changes and albuminuria and others show no demonstrable damage. These latter have had long-term favorable control.

I am thinking of one young man of 20, a diabetic for twelve years, now stunted in growth, with a fatty liver, retinal changes and kidney damage. He illustrates the tragedies of childhood diabetes—the loss of a mother at age 12, little home life or moral encouragement thereafter and, hence, atrocious control throughout the years. I can recall a girl, now age 30, a diabetic since age 3, in an excellent state of health; her medical care and self management have been of the best.

Jackson of Iowa and Priscilla White of Boston have each analyzed the records of an impressive number of diabetic children and find that there is a strong evidence to indicate that a high level of control is essential to survival and protection. Graphic Associates for Public Affairs Committee estimated life expectancy of a 10 year old diabetic as thirty-two more years ten years ago, and as forty-five more years today. It is to be hoped that expectancy may be extended in the future.

The child's amazing adaptability to the diabetic regime has been mentioned. It is essential, furthermore, that he be a member of a well adjusted home; that he receive consideration but not over solicitude; and that he be taught to live openly with his diabetes. If guided correctly, he will become a healthy, hardy child and there is no pleasure of youth he should not enjoy as long as he knows how such will influence his diabetes and what to do about it. The girls will grow into normal womanhood and should not be denied marriage (preferably to a nondiabetic) or motherhood.

You may feel that I have put undue tedious emphasis on some phases of diabetic care in children, or have been a bit too elementary. Even with our present knowledge I continue to see many tragedies, either the fault of uninformed parents or equally uninformed doctors. For example, in our own teaching hospital a husky 11 year old girl was admitted recently with a picture of unconsciousness, dyspnea, fever, dehydration of, the parents claimed, only twenty-four hours duration from the onset. She was sent to the polio ward and a diagnosis of diabetic coma first suspected when a high spinal blood sugar was found. She died.

Another youngster was seen at home by her physician for abdominal pain and vomiting. She was given hypodermic sedation while the doctor rushed on to a "delivery." She was quieted—in fact, went on into diabetic coma from which she could not be revived. There are others.

It is to be hoped, and entirely possible, that within the life span of diabetic children another great advance in therapy may come about. Until then, we must utilize our present rather satisfactory knowledge to the best advantage.

CURRENT TREATMENT OF HYPERTHYROIDISM*

A. SELDON MANN, M. D.†

NEW ORLEANS

Hyperthyroidism occurs in (1) diffuse goiter of Grave's disease (known as primary hyperthyroidism), (2) toxic nodular or adenomatous goiter or (3) single adenoma. For successful management of these diseases any of a number of therapeutic measures may be employed. These include medications, such as iodine (I^{127}) (Lugol's solution), thyroid extract or thyroxin sodium, antithyroid drugs (propylthiouracil and others) and radioactive iodine (I^{131}); surgical measures; and rarely radiation. Treatment may appear complicated because of the multiple choice of methods available for successful amelioration of symptoms. On the contrary, because of a better understanding of thyroid gland physiology and the availability of antithyroid drugs, radioactive iodine, and refinements in surgical techniques, the phy-

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†From the Departments of Internal Medicine, Ochsner Clinic, and Tulane University of Louisiana, School of Medicine, New Orleans.

sician may now plan treatment to meet the needs and combat the problems of each individual case. Planning of effective therapy depends upon consideration of the type of goiter producing the hyperthyroidism, determination of the extent of the associated complications, and finally, evaluation of the emotional and economical aspects of each individual case.

DIFFUSE GOITER WITH HYPERTHYROIDISM

The usual patient with uncomplicated hyperthyroidism associated with a diffuse goiter of Grave's disease presents no major problem in choice of treatment. Most of these patients are less than 45 years of age and for this reason alone the use of therapeutic doses of radioactive iodine is more or less universally discouraged because the long range side effects of this type of radiation have not yet been determined. If it can be proved that these effects are not deleterious to other tissues and structures, this form of treatment will be ideal for all patients with primary hyperthyroidism. It is probably the treatment of choice in patients over 45 years of age because it is simple to administer, safe, economical, effective in reducing the size of the goiter, and followed by minimal recurrences and a high rate of permanent remissions. The only disadvantages are that it is not yet generally available and hypothyroidism results in 10 to 20 per cent of patients treated.

Another type of therapy which is effective against diffuse goiter is antithyroid medication. Propylthiouracil, which is most generally used, is well tolerated by most patients. Administration of 200 to 400 mg. daily in divided doses at six or eight hour intervals causes the toxic symptoms to begin to subside in five to ten days. The euthyroid state is usually reached in one to three months, depending on the degree of toxicity and the size of the gland. After the symptoms have been controlled and the basal metabolic rate has returned to normal, the same dosage schedule is continued for approximately nine months. During treatment the patient should be examined at six to twelve week intervals for evidence of toxic symptoms or hypothyroidism. Development of toxic symptoms is an indication for substitution of another antithyroid drug or another type of therapy. Hypothyroidism can be controlled by adding 1 to 2 gr. of dessicated thyroid extract daily. This form of treatment is probably most effective in patients with small to medium sized glands. It is economical, produces no loss of time or permanent complications and the thyroid is intact during remission. Its greatest disadvantage is the rather high recurrence rate, which varies from 25 to 50 per cent depending on the selection of cases. Other disadvantages are slow control of symptoms, continued or progressive enlargement of the gland and prolonged medication and observation.

A third method of treatment consists in subtotal thyroidectomy after a euthyroid state has been produced by antithyroid medication. In the preoperative management 200 to 400 mg. of propylthiouracil daily in equally divided doses at six to eight hour intervals is given until all symptoms have disappeared and a euthyroid state is obtained. Lugol's solution is given, 10 drops daily for two or three weeks prior to operation, to effect involution of the gland. Properly prepared patients, improved surgical technique, and the antibiotics make operation relatively safe and the treatment of choice for patients with a large diffuse goiter or one which is suspected of being malignant. The advantages of surgical excision are early control of hyperthyroidism and removal of the undesirable mass. The operative mortality rate is less than 1 per cent. This method of treatment is less economical, is followed by complications such as tetany or vocal cord paralysis in from 0.5 to 5 per cent of cases and hypothyroidism in 10 to 20 per cent of cases, and the recurrence rate approaches 15 per cent. From these brief considerations the treatment of choice can readily be determined roughly, at least initially, by the age and economical status of the patient and the size of the gland.

TOXIC NODULAR GOITER

Treatment of nodular goiter with hyperthyroidism without serious complications

is surgical. The operative procedure is usually highly successful, the postoperative complications are minimal, the unsightly mass is removed and recurrences are rare. Though the occurrence of carcinoma in these goiters varies from 1 to 19 per cent in reported series, its development is a definite possibility which can be abolished only by surgical excision. These patients should be prepared for operation by administration of adequate doses of antithyroid drugs (propylthiouracil). The amount of drug and time required to bring about a euthyroid state may be greater than for primary hyperthyroidism. The terminal use of Lugol's solution preoperatively is not necessary.

If for any reason operation is contraindicated, adequate therapeutic doses of radioactive iodine are effective provided the tracer dose uptake study indicates a definite avidity for iodine. If both operative treatment and use of radioactive iodine are contraindicated, antithyroid drugs alone will control the symptoms. The major disadvantages of radioactive iodine and antithyroid drugs are slowness in attaining a euthyroid state, prolonged period of observation, persistence of the goiter and uncertainty as to the presence of carcinoma.

SINGLE ADENOMA WITH HYPERTHYROIDISM

There are conflicting opinions as to whether single nodules occur in hyperthyroidism. In large series of reported cases in which a single nodule was suspected clinically, multiple adenomas were present in the surgical specimen more often than not. In any event, when a single toxic nodule is suspected clinically, the treatment of choice is surgical. The relatively high incidence of carcinoma found in single adenomas may depend on whether the pathologist is "an optimist or pessimist;" nevertheless the therapeutic approach is surgical. The disadvantages of the use of radioactive iodine and antithyroid drugs are the same as in toxic nodular goiter.

COMPLICATED CASES OF HYPERTHYROIDISM

Because of the trend toward conservative use of radioactive iodine, at least in some areas, in patients with hyperthyroidism less than 45 years of age, it seems pertinent to mention some of the situations in which the choice of treatment is restricted to radioactive iodine in spite of age and other factors. These include recurrent hyperthyroidism in diffuse toxic goiter following one or more thyroidectomies, primary hyperthyroidism after the age of 45 years, hyperthyroidism complicated by serious cardiac or concurrent disease in which operation is inadvisable, recurring or persistent hyperthyroidism after use of antithyroid drugs, and occasionally, preference of the physician or patient for various reasons. Under these circumstances, an attempt is made to give an initial dose of I^{131} that will relieve the symptoms but not cause hypothyroidism. The optimum dose depends upon the estimated weight of the gland, the percentage of I^{131} uptake in twenty-four hours after a test dose of 100 microcuries indicating the avidity of the gland for iodine. Accumulated experience indicates that the average therapeutic dose in primary hyperthyroidism ranges from 5 to 10 mc. In toxic nodular goiter usually 8 to 20 mc. doses are required. Experience has also shown that in some as little as 3 mc. may produce hypothyroidism whereas in others as much as 100 mc. may be required to control the symptoms. Previous administration of iodine will influence the percentage of uptake in the test dose as well as the avidity of the gland to radioactive iodine in the therapeutic dose. Iodine can be used advantageously in severely toxic patients immediately following the therapeutic dose of I^{131}, since it is possible to precipitate a "thyroid storm" in some cases. If antithyroid drugs have been administered previously, their use should be discontinued for several days before radioactive iodine is given. A euthyroid state can be restored in those patients with hypothyroidism by adequate replacement therapy of dessicated thyroid extract or thyroxin sodium.

CONCLUSION

Successful treatment of hyperthyroidism

depends on application of the most suitable of the multiple choice methods available for treatment: medications, surgical therapy and rarely radiation. Selection of treatment should be based on knowledge of the type of goiter producing it and evaluation of the emotional and economic status of the individual.

DISCUSSION

Dr. Haydn H. Cutler, (Monroe): This summary of the current treatment of hyperthyroidism by Dr. Mann has been most complete and aptly presented. I would like to emphasize the emotional aspect of this disease, especially in relationship to its etiology and therapy. In order to understand the underlying factors in the production of this disease, one must remember that the thyroid gland is under the control of the pituitary gland which produces a thyroid stimulating hormone; in addition, the thyroid has a close inter-relationship with the other endocrine glands. Normally, it consists of acini which are lined by a low cuboidal epithelium and the lumina are filled with colloid. The production of more thyroid hormone is stimulated by the thyroid stimulating hormone, which causes an increase in the growth of the epithelium, which now becomes tall columnar, and also decreases the colloid content within the gland. The administration of iodine increases the colloid within the acini and also, there is a decrease in the size of the epithelial cells. Thiouracil, however, prevents the formation of thyroxin by the gland resulting in an exaggeration of the underlying pathological findings of increased hyperplasia of the lining epithelium.

The causes for the increase in the pituitary hormones is not known, but if one is an advocate of Selye's general adaption syndrome, then we could well assume that hyperthyroidism is the result of stress which produces an adrenopituitary imbalance, with the resultant excess of thyroid stimulating hormone. Thus we can see, that stress produced by physical factors; trauma, infection, chemical agent, foreign protein, or pure emotional factors, may very well serve as a stimulus to the production of the thyroid stimulating hormone and the resultant secondary hyperthyroidism.

In conclusion, because of these stress factors, I believe that the therapy in the future should be more preventive and directed toward alleviating mental and physical factors producing the stress and this future attack could be much more effective than all the anticipated advances in newer drugs and isotopes.

HYPERSPLENISM*

DANIEL W. HAYES, M. D.†
NEW ORLEANS

The normal spleen is an organ in which control of blood cell formation, blood cell sequestration, and blood cell destruction are balanced physiologic functions. Consequently, any imbalance in this physiologic equilibrium may give rise to clinically recognizable syndromes. Hyperfunction of any or all of these phenomena is called hypersplenism.

PHYSIOLOGY

Removal of the spleen causes certain almost indisputable changes in the blood elements. The red count usually rises slightly. Often target cells and cells with Howell-Jolly bodies appear. The white blood count often doubles itself with a higher rise in lymphocytes than in the neutrophils. The platelets are increased to high levels. These blood changes, after removal of a normal spleen, suggest that the spleen is at least a governor or controlling agent for the bone marrow.[2, 10, 11] It probably also acts to phagocytize old blood elements, especially red blood cells. These have been two sharply differentiated theories in the past though most will agree that there is truth in both views in the light of present knowledge. Doan[5] and Wiseman have been the foremost proponents of the excess phagocytic theory to explain these "hypersplenic syndromes," whereas Dameshek and co-workers[8] believe that hormones controlling the bone marrow, or lysolecithin[7, 8] may be produced by the spleen. Recently it has been considered that immune bodies play a prominent role.[4] Hypersplenism, then is hyperactivity of the spleen through one or more of the several mechanisms affecting the red cells, white cells, platelets or all three formed elements.

The hypersplenic effect on the white cells results in leukopenia. This is often found in splenomegaly from any cause. Neutro-

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†From the Mahorner Clinic and the Department of Medicine, Louisiana State University School of Medicine, New Orleans.

penia occurs in variable degree from mild neutropenia to virtual agranulocytopenia.

The thrombocytopenia resulting from the hypersplenic syndrome is clinically evident as idiopathic thrombocytopenic purpura. However, thrombocytopenia is not always idiopathic, and other causes may be evident.

Hemolytic or nonhemolytic anemia may be present alone or combined with the other cytopenias. Secondary, as well as primary causes play a role in the production of these entities.

SPLENOMEGALY

The anatomic enlargement of the spleen may or may not be associated with hypersplenism. Splenomegaly alone is not the sole criterion of hypersplenism. The pathologic physiology of hyperfunction of the spleen must be present before hypersplenism may be diagnosed.

The list of causes of splenomegaly touches on all classes of disease. The infectious splenomegaly includes acute as well as chronic infections with some related collagen diseases. Congestive splenomegaly occurs in Banti's syndrome, cirrhosis of the liver, or portal or splenic vein thrombosis. The neoplastic and excessive cellular proliferation in the spleen is seen in leukemias, lymphomas, polycythemia vera, and myeloid metaplasia of the spleen. Certain cysts and tumors may cause splenomegaly. When there seems to be excessive blood destruction as in chronic or acute hemolytic anemias, hemoglobinurias or other chronic anemia, the spleen may be enlarged. Disorders of lipid metabolism and other infiltrative diseases may be grouped together.

HEMOLYTIC ANEMIA

Hemolytic anemia is most frequently unassociated with hypersplenism. In certain cases, however, functional hyperactivity of the spleen is closely linked to this disease. Familial hemolytic icterus, and a few cases of acquired hemolytic anemia are thought to be due to hypersplenism. Hypersplenism and splenomegaly secondary to leukemia, lymphoma, and certain infections will also cause hemolytic anemia.

In familial hemolytic icterus (congenital hemolytic jaundice or hereditary spherocytosis) the trait is a Mendelian dominant transmitted by either parent. In this condition spherocytes with increased fragility, a slight anemia, and an increased number of reticulocytes will be present. During crises spherocytosis is more marked; reticulocytes, leukocytes, and thrombocytes are reduced in the peripheral blood. A maturation arrest is present in the bone marrow during crisis. Increased indirect bilirubin is in the blood. The spleen is enlarged and maye be huge. Gall stones often occur as a complication of this disease. Splenectomy is in most cases curative. The pathogenesis of the disease is thought to be due in part to the destruction of the fragile spherocytes by the spleen or perhaps to the production by the spleen of abnormal hemolysins which coat the red cells, thus rendering them more fragile.

Acquired hemolytic icterus due to various causes may or may not be due to splenic overactivity. If there is a known cause, the underlying etiology should be treated. However, if the anemia is due to unknown cause, and particularly, if the direct and indirect Coombs test are both positive, there may be evidence of abnormal agglutinins and hemolysins in the serum.[8] In these cases splenectomy is most often of some value.

NEUTROPENIA

Neutropenia is seen in most cases of splenomegaly regardless of cause. Symptoms usually are of weakness and a tendency to repeated infections. It is important in these cases to have bone marrow studies in order to correctly ascertain that the bone marrow does not show a reduced number of granulocytes. In most cases of splenic neutropenia the myeloid series is perfectly normal, or there is a maturation arrest at the myelocyte or metamyelocyte stage without older forms present. The erythroid elements and the platelets should be normal in the bone marrow. Usually more extensive studies should be undertaken with particular care in order to rule out leukemia, lymphoma or infectious diseases which would respond to appropriate medical therapy.

The spleen is thought to function in these

cases to block the delivery of the granulocytes, to induce a maturation arrest or to abnormally phagocytize the cells. In appropriate cases, then, splenectomy will often be of value. Since the pathologic examination of the spleen may reveal a hitherto undiscovered disease in that patient, some care must be used to avoid an overoptimistic prognosis.[9, 11]

THROMBOCYTOPENIA

Thrombocytopenia due to hypersplenism is present as idiopathic thrombocytopenic purpura. It is well known and seems to occur in young females predominately. No definite inherited trait has been clearly identified, though there is often a family history of easy bruising. Purpura is the presenting symptom and the bleeding may occur in any body surface, organ, or cavity. The spleen is usually not demonstrably enlarged in more than 30 per cent of cases. The blood findings are characteristically those of thrombocytopenia with abnormal platelet forms seen in the peripheral blood. Bleeding time is usually prolonged and the clot fails to retract. Megakaryocytes are increased in the bone marrow and there is usually morphologic change of these elements. The pathology of the spleen may not show destruction of platelets.[11]

Since initial episodes, especially in the young, are often spontaneously improved and cured, splenectomy does not need to be done in each case. ACTH and cortisone have been of considerable help in reducing the acute purpuric manifestations; therefore, splenectomy may not have to be performed in the acute phase of the disease when there is a higher mortality. Certainly, it is to be performed in patients with repeated purpuric episodes or if bleeding persists despite treatment. In females who menstruate regularly splenectomy may be considered more strongly than in males. Recurrence is said to be higher in women than in men and splenectomy can be considered also from that viewpoint. Splenectomy is contraindicated if the diagnosis is not clear. If the splenectomy can be performed after the initial acute attack subsides the mortality statistics favor splenectomy as the treatment of choice. It remains to be seen whether ACTH and cortisone will change that statement materially.

Platelet agglutinins in the serum have been recently found in many cases which may be a significant and important factor in the destructive mechanism and decreased platelet count. These have been found in the more chronic cases rather than in the acute syndrome.[4]

PANCYTOPENIA

Splenic pancytopenia may occur with or without hemolytic anemia. If there is no hemolytic process there is evidently no excess destruction of the red cells by the spleen but if increased hemolysis occurs there is excess phagocytosis of the red blood cells in the spleen,[2, 3] in addition to an inhibitory effect on the production and/or the delivery of the cells to blood. Dameshek and coworkers[2, 3] do not believe that there is phagocytosis of other than the red cells to any extent and then only in hemolytic processes.

DIAGNOSIS

Diagnostic procedures in these cases must include complete peripheral blood studies, bone marrow examination, and perhaps other diagnostic procedures. The adrenalin test has been used extensively by Doan[5] but the validity of the procedure to demonstrate excess phagocytosis by the spleen has been in some doubt. Splenic puncture[1, 6] may be valuable in certain cases, mainly to rule out important secondary causes that would contraindicate splenectomy. The procedure is not without risk and some mortality. It has been used in Europe more than in this country for many years and it is said by Moeschlin[6, 12] to be attended with little danger.

Splenectomy and the response of the patient and his disease thereto is, in the final analysis, the true diagnostic test in the evaluation of hypersplenism. It must be emphasized again that hypersplenism is a functional, not an anatomic diagnosis and that the pathologic physiology which occurs as a result of hypersplenism may affect one or all of the formed elements of the blood. About 80 per cent of all cases of hypersplenism will be cured by splenectomy.[2]

Pathologic studies[11] seem to support the

theory that there is something else besides phagocytosis alone causing the various cytopenias. It is difficult to conceive of an accessory spleen the size of enlarged lymph node having the ability to phagocytize enough cells to cause a fully developed clinical syndrome of hypersplenism.

SUMMARY

Hypersplenism is a functional diagnosis related to the pathology physiology of an overactive spleen. Splenomegaly usually accompanies this deranged activity of the spleen but splenomegaly is by no means the one and only criterion to the diagnosis of hypersplenism. Primary disease of the spleen or secondary or systemic causes may cause hypersplenism.

Neutropenia, hemolytic anemia, thrombocytopenia, or pancytopenia with or without hemolytic anemia are the characteristic results of overactivity of splenic function.

The effect of certain unidentified splenic "hormones"[10] to inhibit bone marrow production or to prevent delivery of the cells to the peripheral blood has been postulated as the most likely cause of the clinical syndrome. Phagocytosis of red cells also plays a less prominent part in hemolytic syndromes. Autoimmune bodies and agglutinins are present in many cases.

Splenectomy is the treatment of choice in hypersplenic syndromes in which the diagnosis has been carefully evaluated. If all other causes which could be treated medically have been excluded, the operation will produce good results in four out of five patients.

REFERENCES

1. Block, Matthew, Jacobson, L. O.: Splenic puncture. J. A. M. A. 142:641 (Mar.) 1950.

2. Dameshek, William, Estren, Solomon: Hypersplenism, M. Clin. North America 34:1271 (Sept.) 1950.

3. Dameshek, William, Estren, Solomon: The Spleen and Hypersplenism, New York, Grune and Stratton, 1947, 55 pp.

4. Dameshek, William, Stefanini, Mario: Idiopathic thrombocytopenic purpura. Some ideas on its pathogenesis and treatment, M. Clin. North America 37:1395 (Sept.) 1953.

5. Doan, C. A.: Hypersplenism, Bull. New York Acad. Med. 25:625, 1949.

6. Moeschlin, S.: Quoted by Block, Matthew, Jacobson, L. O.[1] p. 641.

7. Scheff, G. J. Awny, A. J.: Lecithinase activity in splenic dyscrasias, Am. J. Clin. Path. 19:615 (July) 1949.

8. Singer, Karl, Miller, E. B., Dameshek, William: Hematologic changes following splenectomy in man with particular reference to target cells, hemolytic index and lysolecithin, Am. J. Med. Sci. 202:171 (Aug.) 1941.

9. Symmers, Douglas: Splenomegaly, Arch. Path. 54:385 (March) 1948.

10. Ungar, Georges: Endocrine functions of the spleen and its participation in the pituitary—adrenal response to stress, Endocrinology, 37:329 (Nov.) 1945.

11. Von Haam, E., Awny, A. J.: The pathology of hypersplenism. Am. J. Clin. Path. 18:313 (April) 1948.

12. Wintrobe M. M.: Clinical Hematology, Philadelphia, Lea and Febiger, 1952. 1048 pp.

DISCUSSION

Dr. A. J. Hertzog (New Orleans): Dr. Hayes has covered the subject of hypersplenism very completely and leaves me little to add.

Some years ago at the University of Minnesota, I looked up all of the cases of essential thrombocytopenic purpura that came to autopsy in a series of 20,000 consecutive autopsies. In 20 adults the average of weight of the spleen was 232 grams. The spleen then in essential thrombocytopenic purpura is only slightly enlarged and is rarely palpable. When we can palpate the spleen the purpura is usually not the idiopathic variety. Microscopic sections of the spleens in essential purpura show practically a normal histologic picture. Some investigators like Von Haam have described minor alterations of the reticulum of the spleen in essential purpura but such findings are not generally accepted. In the bone marrow in essential purpura we usually find marked hyperplasia of the megakaryocytes. There is decreased platelet production and immaturity of the nuclei of the megakaryocytes. Hence, I think the best interpretation of essential thrombocytopenic purpura is that it represents a variety of hypersplenism with a failure of the megakaryocytes of the bone marrow to produce platelets. Where the megakaryocytes are numerous in the bone marrow excellent results are usually had following a splenectomy. Poor results are usually expected where the megakaryocytes are reduced in number.

An enlarged spleen is found frequently in Hodgkin's disease. We may get signs of hypersplenism such as anemias or leukopenias or thrombocytopenias with any enlarged spleen, regardless of the cause of the splenomegaly. In recent years it has become recognized that some of these cases of malignant lymphoma can get temporary benefit with marked improvement of their anemia, thrombocytopenia, or leukopenia following a splenectomy. However, in these cases it is necessary to show that hypersplenism exists by bone marrow studies before one is justified in doing a splenectomy. It should also be recognized that the procedure is more or less palliative therapy.

The spleens removed at operation from congenital hemolytic icterus are always enlarged, dark red, and show marked congestion of the pulp with red blood cells. The fundamental pathology in congenital hemolytic icterus is not in the spleen but in the red blood cells. Fat round spherocytes are found in this disease. These cells are abnormally fragile. One of the normal functions of the spleen is to destroy red blood cells and hence these

abnormal cells are excessively destroyed. Splenectomy is curative as a rule in these cases as it removes the principal source of red cell destruction for these fragile spherocytes. Hence, congenital hemolytic icterus represents a variety of hypersplenism where the normal phagocytic property of the spleen is at fault rather than any hormonal mechanism that it may exert on the maturation of cells in the bone marrow.

I think we have a tendency to oversimplify the complex mechanisms discussed under the term of hypersplenism. However, such conceptions as brought out by Dr. Hayes do give a clinician a practical approach to splenic malfunction and in properly selected cases splenectomies are of great benefit to the patient while in other cases the patient is not benefited and may actually be done a great deal of harm by an ill advised splenectomy, particularly in the syndrome commonly known as agnogenic myeloid metaplasia of the spleen.

The spleen is one of the most difficult organs for a pathologist to interpret either histologically or cytologically. Hence, I think splenic punctures with a needle are of very little diagnostic value because of the difficulty of properly interpreting the small piece of tissue or cells obtained. The limited value is offset by the danger of severe hemorrhage from a congested spleen following a needle puncture. Hence I do not recommend splenic punctures as a diagnostic procedure, with the exception of a very exceptional case where someone is trying to establish a diagnosis of a rare parasitic disease in the presence of a splenomegaly.

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DIAGNOSIS AND TREATMENT OF HYPOPITUITARISM*

ALBERT SEGALOFF, M. D.†
NEW ORLEANS

DIAGNOSIS

Hypopituitarism is an unusual disease, which is not too difficult to diagnose if it is suspected. One can hardly blame any physician for not making the diagnosis, since the usual textbook description of the disease is misleading. Indeed, cachexia was thought to be so essential in the diagnosis that the disease is most commonly referred to as Simmond's cachexia. Unfortunately, it is one of the least common symptoms. Indeed, in patients with cachexia, anorexia nervosa, malignancy or advanced tuberculosis should always be considered as more likely diagnoses than panhypopituitarism. The disease most commonly encountered manifesting cachexia and mimicking panhypopituitarism is, of course, anorexia nervosa. Whereas from many laboratory aspects, anorexia nervosa might well be considered as hypopituitarism, it is a psychogenic disturbance. However, the laboratory and clinical findings relative to hypopituitarism in this disease are real. There has actually been a decrease in pituitary secretion. This is part of the body's attempt to defend itself against severely inadequate nutrition and can be induced experimentally in animals by underfeeding. This state of "pseudo-hypophysectomy" also occurs in various degrees in certain other chronic diseases, such as extensive cancer.

Anorexia nervosa usually occurs in young unmarried women. They are severely emaciated individuals with amenorrhea and many of the laboratory findings of panhypopituitarism. Surprisingly enough the mammary tissue remains unchanged despite loss of body substance and amenorrhea. In such cases the prognosis can be poor, although it has sometimes been possible by administration of ACTH and cortisone to increase the appetite, and, with adequate psychogenic support, to effect wht amounts to a cure. There are also remissions in many cases due solely to adequate psychotherapy. The other possible approaches, such as forced feeding and the like, are beyond the scope of this paper.

The patient with panhypopituitarism, on the other hand, presents a long story of fatigue, mental slowness, loss of pubic and axillary hair, and even social withdrawal to the extent of being classified as psychotic; they are in general quite unhappy individuals. Females also complain of amenorrhea, and males, impotence. They are often able to carry on only at a low level of activity and can barely care for themselves. They also have anemia, which is usually refractory to standard anti-anemic measures.

It has been our experience that the com-

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†From the Endocrine Research Laboratory, Alton Ochsner Medical Foundation, and the Department of Medicine, Tulane University of Louisiana, School of Medicine, New Orleans.

sented herein are those confirmed at the operating table. On the other hand, it is very important in comparing results of a group of patients treated conservatively and those treated surgically, to have some agreeable definition of what might be considered pancreatitis prior to the operation. It is not possible to deny that any patient who has pain in the upper abdomen radiating through to the back, of a recurrent and severe type with tenderness and rigidity, particularly in the upper mid-abdomen during the attack, possibly associated with more pronounced symptoms relative to the gall bladder area and certainly, those with elevated amylase values during the acute attack or elevated lipase values during its abatement, and those with a widened duodenal loop on roentgenographic examination may be considered probabale, if not actually proven cases of clinical pancreatitis.

Objective evidence at operation justifying the diagnosis of pancreatitis may be present in relatively severe form where the diagnosis has been other than this, such as cholelithiasis, ruptured ulcer, and intestinal obstruction. At the operation the following signs are evidences of pancreatitis:

1. Firmness, or hardness of the pancreas: This increased consistency involves usually not only the head but the entire gland. It is important for the surgeon to run his hand along the entire organ to determine whether the body and the tail are uniformly involved in these changes. The maximum change frequently is in the head and it may be less noticeable in the body and tail, but when pancreatitis is present, it practically always involves to a greater or lesser extent the entire organ.

2. Enlargement of the pancreas is a constant finding in pancreatitis. It may vary from slight to many times the normal size.

3. Spotted fat necrosis is a sign of pancreatitis. This is found particularly in the region of the pancreas, but it may also be encountered in various areas throughout the abdomen.

4. Brownish fluid exudate in the upper abdomen, and particularly, in the lesser peritoneal cavity with other signs is indicative of hemorrhagic pancreatitis.

5. Necrosis of the pancreas—the finding of grumous soft material is a most valuable sign in establishing the diagnosis.

6. In addition to this, the root of the mesentery should always be carefully palpated as it comes out from under the transverse mesocolon. If it is thickened and edematous and there is marked edema along the gastrohepatic ligament, these are additional signs of acute pancreatitis.

7. Biopsy of the pancreas with a positive diagnosis of pancreatitis or necrosis further establishes the diagnosis, but even this must not be taken as absolute evidence to the exclusion of other possibilities because pancreatitis may co-exist with other lesions, notably a neoplasm. Pancreatitis associated with neoplasm of the pancreas in our series has been excluded from this report and discussion.

Without attempting to elaborate on the pathology in this surgical consideration, a brief classification is acknowledged for those who are considering the justification for this aggressive viewpoint. The cases of pancreatitis are divided into:

1. Acute hemorrhagic pancreatitis, with or without sequestration of the pancreas.
2. Acute pancreatitis.
3. Chronic pancreatitis.
4. Recurrent pancreatitis.
5. Calcareous pancreatitis and pancreatic lithiasis.
6. Traumatic pancreatitis.

It is very difficult at the operating table, if one does not know the clinical history, to classify the disease pathologically on the operative findings. Of course, it is easy when there is an acute hemorrhagic pancreatitis with the evidence of hemorrhage and with a larger, tremendously swollen pancreas and fat necrosis. It is probably safe at the operating table to take fat necrosis as evidence of an acute attack, but what about a hard, enlarged pancreas, enlarged three or four times normal and iron hard, without fat necrosis or fluid in the abdomen. Can this not be acute pancreati-

tis? It certainly can, based on the clinical evidence, including high amylase reaction in some of these patients. The chronic variety is usually, from a clinical and operative standpoint, one in which there have been recurrent subacute or acute attacks, but which at the time of the operation, is not a remission. It is probably very rare for a low grade pancreatitis not to have exacerbations at least in the subacute phases. Regretfully, so far we have not taken pancreatic biopsies from every case. Although it is not very elegant or classical, I like to think of pancreatitis as being "low grade" or "high grade".

REVIEW OF CASES

During the last eight and one-half years, from January 1945, on our private services, we have encountered 10 cases of pancreatitis. These are all of the cases of pancreatitis, so far as I know, which I have treated during that period. During the same time it is notable that we have performed 204 cholecystectomies for diseased gall bladder.

The youngest of the 10 patients was twenty-three years old and the oldest sixty-five. There were 5 in the sixth decade of life, 2 in the fifth, 1 each in the third, fourth, and seventh.

Pain was the most constant subjective symptom and in the majority of patients it radiated through to the back. It was of a severe type, usually in the upper epigastrium and, in some instances, the more accepted variety of pancreatic pain, was overshadowed by the pain of gall stone colic. Two patients were jaundiced; one of these had stones in the common bile duct; the other had no gallstones. Six of the patients had or formerly had gallstones. Two had a perfectly normal gall bladder. One had cholecystitis without stones and one had cirrhosis of the liver, and normal gall bladder. Six of the patients had never been operated upon for anything resembling biliary or pancreatic disease. Two had had previous cholecystectomies, one had had cholelithotomy and cholecystostomy and one had had an exploration with gastroenterostomy.

The operative findings in three instances justified the diagnosis of severe, acute pancreatitis, on the basis that fat necrosis was found at operation with a tremendously enlarged, swollen pancreas, and edema involving the root of the mesentery and the gastrohepatic ligament. In one of these there was a brownish grumous material, and subsequent sequestration and drainage of necrotic tissue from the pancreatic bed. Biopsy was taken in only three of the entire group. In two the diagnosis of pancreatitis was confirmed and in one fat necrosis was reported.

Operation — Technical Features: Because of the attitude which we have that the disease is on an obstructive basis, the objective of the operations was always to decompress the biliary system. In 9 out of the 10 cases, a T-tube was placed into the common duct. In 7, the T-tube with multiple perforations, was permitted to traverse the ampulla of Vater into the duodenum. In one instance a cholecystotomy was done to decompress the biliary tract because the edema and swelling was so massive in and around the gastrohepatic omentum and the patient was so desperately ill, that choledochostomy was considered inadvisable. A transduodenal, as well as a supraduodenal exploration of the common duct was done in 5 cases. In 5 of the cases sphincterotomy was done. In the remaining, dilators were passed through the ampulla into the duodenum.

Results:—All of these cases recovered, and all of them have remained well subsequently, although 2 operated upon—1 in February 1953, and one in March 1953—still have a T-tube in the common duct. One of these has had an attack of pain in the abdomen on one occasion.

DISCUSSION

No consideration has been given to the etiology of acute pancreatitis. Since the classic report of Opie in 1901, the possibility of regurgitation of bile into the pancreatic system and activation of pancreatic autolysis always enters into a consideration of etiology. The lymphatic, neurogenic, virus, traumatic, and other theories deserve consideration but probably the weight of

evidence points to obstruction to pancreatic secretion and possible reflux of bile into the pancreatic ducts as the most common cause of pancreatitis.

In this presentation no mention has been made of other possibilities. Vagotomy, splanchnicectomy, and sympathectomy, pancreatectomy, pancreatic and/or common duct transposition, cholecystectomy, and more conservative measures should not be completely ignored. Certain of these procedures may be well indicated and of great value for selected cases, namely calcareous pancreatitis.

I am convinced that pancreatic disease deserves surgical consideration and that an aggressive attitude can give excellent results. During this time, we have probably overlooked cases of pancreatitis, not only clinically, but at the operating table, simply because we were not looking for them. In the last few years we have been more acute and more attentive to the diagnosis objectively and we are finding it with increasing frequency. When it is found at the table, we think there is justification for sphincterotomy, which was done in our last 4 cases and in 5 of the 10, the first one of the group having been done in 1948. This operation was first deliberately performed for this condition and was advocated by Archibald in 1929. Since then other authors have used and advised it with various technical modifications.

When the duodenum is opened, one may see that it is impossible to pass a 2 mm. dilator through the ampulla. I gain the impression that it is not the muscle which causes the obstruction, but that it is a mucosal ampullitis; that the small mucosal orifice tightens down and becomes constricted. It has the same appearance as that of the orifice of the submaxillary salivary duct when a stone is impacted therein. Under these circumstances no amount of pushing without actually bi-manually milking the small probe through the orifice will accomplish its passage. When these findings are present we then incise the ampulla, opening it widely, cutting the ampulla and the sphincter, assuring a free opening into the common duct.

In some instances, it is not feasible to find the ampulla of Vater even with the duodenum open. In one of the acute cases, we made a false passage with a dilator by forcibly pushing it into the swollen head of the pancreas. It was carefully readjusted and the mucosa in the region of the sphincter was cut in order to establish a good opening into the common duct, but in this case there was so much swelling of the pancreas that it was not feasible to put a long arm tube into the duodenum. I prefer this type of tube when a sphincterotomy has been done, to prevent stenotic healing of the ampulla, although admittedly this may not be absolutely necessary. When this is the choice, multiple perforations must be made in the vertical arm of the tube to prevent obstruction of the pancreatic duct by the tube and to insure the free escape of pancreatic secretions into the duodenum. In one case of acute hemorrhagic pancreatitis, decompression was accomplished by a cholecystectomy and in this patient also two small bowel catheter enterostomies were established. There is a tremendous swelling at the root of the mesentery in severe pancreatitis and this prevents decompression of the small bowel with a transnasal gastric tube. It produces in effect a Wilkie's syndrome, and the hard mesentery lying over the third portion of the duodenum prevents the retrograde escape of gas and fluid in attempted decompression by gastric suction. Because of massive swelling and the severe ileus in this case, two enterostomy tubes were placed—one at the lower end of the jejunum and one at the lower end of the ileum, to insure decompression. This patient had, in addition to the ileus and hemorrhagic pancreatitis, a chemical peritonitis and decompression by entepostomy in this instance may have been a life saving measure.

Two cases in this series are reported in detail to give some idea of the part surgery played in their management.

CASE REPORTS

One was a sixty-five year old man, the oldest individual in this group, who was on the first phase of a Mediterranean cruise. He became sick three days prior to the time I saw him, with severe

pain in the epigastrium, radiating through to his back. He had had five similar attacks in the last fifteen months. His physician in San Francisco, who referred him and with whom I talked on the telephone, told me that the patient had been studied at several prominent clinics there and elsewhere and that the diagnosis of recurrent pancreatitis had been repeatedly made, supported by high lipase levels as positive evidence. Objectively, he had tenderness in the upper abdomen with rigidity and a mass. The amylase values were normal, but I felt that he had acute cholecystitis and advised operation. I also felt that he probably had pancreatitis, but because he had seen many more eminent doctors, who had told him he had pancreatitis, but had never advised him to be operated upon for this, it seemed unwise for me to suggest that the operation was indicated even for the pancreatitis.

After brief hours of preparation, he was operated upon. The mass proved to be a very large head of the pancreas. The pancreas was about four times normal size. Fat necrosis was spotted in the upper abdomen. Tremendous edema was found involving the gastrohepatic omentum and the mesentery of the small bowel. The gall bladder was distended, edematous, acutely inflamed, but it did not contain stones.

At operation the common duct, which was dilated twice normal size, was opened. Thick, syrupy bile escaped. The obvious obstruction to the duct was so marked it made one wonder why clinical evidence of jaundice was not present. A small Bakês dilator could not be passed into the duodenum. The 2 mm. dilator was forced and it created a false passage between the duodenum and pancreas. Then the duodenum was mobilized, turned forward and an opening was made into it, and with a dilator through the supraduodenal opening in the duct as a guide, the duodenum was cut to secure an opening into the duct. A T-tube was placed in the common duct. This was a short arm tube which did not go into the duodenum. The gall bladder was removed. Drains were placed in Morrison's pouch and into the head of the pancreas, from which a small biopsy was removed with Allison forceps.

The opening in the duodenum was carefully closed and the T-tube in the common duct was permitted to come out through a stab wound in the right subcostal area. Because of the severity and nature of the illness necessitating proteolytic drainage, the patient was closed with through and through wire retention sutures as well as individual layer closure. He made an uneventful recovery. Subsequent cholangiograms, the last made in April 1953, have appeared perfectly normal.

This patient has remained well. He writes me that for the first time in two years he has felt perfectly normal and without fear of recurrent attacks, that he was going to the province of Quebec for three weeks for fly-fishing for salmon. He still has the T-tube in. I advised that it not be removed for a period of five or six months following his operation. He simply opens it and drains it for a period of about twenty minutes twice a day.

The second case to be reported to indicate the objectives of immediate surgical attack on pancreatitis was more complicated. The patient was age forty-two and when I saw him after he had been sick for five days he was under the care of able clinicians in a private hospital and they were then debating the diagnosis, feeling that there were some features suggesting intestinal obstruction.

The patient had been a relatively heavy drinker and he became ill in a small town in Louisiana, with severe upper abdominal pain radiating through to the back. Diarrhea, nausea and vomiting ensued with extreme weakness and prostration, board-like rigidity and tenderness of the abdomen, and massive distention.

When I saw him he was desperately ill with a protuberent belly distended as if it would pop. He was extremely toxic, delirious, and with signs of peritonitis.

The amylase test which was done three days after the onset of the illness was reported normal. Flat plates of the abdomen showed distended small bowel.

Operation was advised and within a period of hours after preparation it was undertaken. Through a right rectus incision the right iliac fossa area was first exposed, because intestinal obstruction seemed a likely possibility. A paraduodenal pocket was found into which the terminal ileum as it became overdistended apparently had gotten caught, and there was either an actual or a pseudo-obstruction at this point. This was released but it was not certain that this alone was the trouble. Furthermore fat necrosis was evident. In the upper abdomen was found a tremendous, swollen and edematous mesentery and gastrohepatic omentum with extensive fat necrosis and a brownish grumous material in the region of the duodenum. The gall bladder was distended but not acutely inflamed. The common duct was obscured by massive edema in the gastrohepatic omentum. The mesentery of the small bowel lay like a lead pipe across the third portion of the duodenum. The lesser peritoneal cavity was occupied by a tremendous mass.

Because the patient was so ill, it was felt that decompression of the biliary tract could be accomplished with less disturbance and with more facility, by putting a tube in the gall bladder, which was done. A drain was placed in the lesser peritoneal cavity onto the pancreas. An enterostomy tube was placed in the terminal portion of the jejunum and another one in the terminal portion of the ileum. The abdominal wound was closed. The patient had gradual improvement following this operation. The drains were removed on the thirteenth postoperative day and the enterostomy

tubes on the twelfth. He then subsequently developed a mass in the abdomen which we realized was a collection of pancreatic fluid and it was necessary to do a secondary drainage for this. At this second operation a necrotic pancreas was found. Larger drains were established in the pancreatic bed. He gradually improved and recovered. In the last few years he has refrained completely from alcohol and he has not had anything suggesting recurrence of the pancreatitis.

In reviewing the convalescence of this patient, the enterostomies proved of great value in decompressing the distended bowel. It was our impression that entertostomy sometimes may be of value in severe pancreatitis with severe ileus and tremendous distention, because mechanical decompression cannot readily be accomplished by gastric tube, owing to the obstruction of the duodenum by the swollen mesentery. This is the type of case in which today we would be inclined to use cortisone. It has been reported as favorably influencing the course of severe pancreatitis, but it would not be employed by us to the exclusion of surgery.

The favorable outcome in all of these cases depends in part on modern preoperative and postoperative measures. The use of antibiotics is extremely helpful and important and indeed this probably as much as any single improvement permits a more aggressive attitude toward the disease and makes active surgical attack now not only safe but possibly the safest method of management.

It is realized that this report does not prove that surgery is always indicated promptly for pancreatitis. It is offered only as minor evidence that this may be the correct attitude; that aggressive decompression of the biliary tract and ampullotomy are justifiable objectives to permanently cure primary pancreatitis of the acute or recurrent types.

REFERENCES

1. Archibald, E.: Acute edema of the pancreas; clinical and experimental study, Ann. Surg. 90:803, 1929.

2. Cattell, R. and Warren: Surgery of the Pancreas, W. B. Saunders Co., Philadelphia and London, 1953.

3. Doubilet, H. and Mulholland, J. H.: Recurrent acute pancreatitis; observations on etiology and surgical treatment, Ann. Surg. 128:609, 1948.

4. Mallett, Guy P., Jaubert de Beaujeu, M.: Bilan de la splanchnicectomie gauche dans le traitement des pancreatites chroniques recidivantes; D'apres 52 observations personnelles (1942-1951), Lyon. Chir. 47:531, 1952.

5. Mallett, Guy P., Bilan de la pancreatectomie gauche, Sud. Med. Chir. 85:1702, 1952.

6. Stephenson, Jr., Hugh E., Pfeffer, R. B., and Saypol, G. M.: Acute hemorrhagic pancreatitis. Report of a case with cortisone treatment, Arch. Surg. 65:307, 1952.

RECENT TRENDS IN MEDICAL TREATMENT OF ARTHRITIS*

T. E. WEISS, M. D.†

NEW ORLEANS

With the constant introduction of new drugs for the treatment of arthritis and rheumatism, management of patients with these diseases is dependent on a thorough understanding of the uses and limitations of these agents and the need for accurate diagnosis of the type of arthritis being treated. Arthritic patients encountered by the practicing physician can be classified into one of three groups. About one-third of the patients would fall into the group comprising rheumatoid problems, another third would be classified in the group of osteoarthritis, and the remaining third would be those whose disease was due to trauma, bacterial infection, palindromic rheumatism, gout, Reiter's disease, psychogenic rheumatism, psoriasis, and fibromyositis.

Treatment of arthritis is directed toward relief of discomfort, prevention of articular deformities, and correction of deformities that have already occurred. In addition, chemotherapeutic and antibiotic aids should be utilized to combat bacterial arthritis and psychotherapeutic assistance should be offered those with psychogenic arthritis. Appreciation of the insignificance of "foci of infection" as the cause of arthritis has virtually abolished the practice of routine tonsillectomy, dental extraction, prostatic massage, or administration of antibiotics as treatment for arthritis.

It has been our experience that adoption of a program of basic treatment routine offers the best means of accomplishing the foregoing aims of treatment. This implies

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†From the Departments of Medicine, Ochsner Clinic, and Tulane University of Louisiana, New Orleans.

proper rest, phychotherapy, arthritic exercises, orthopedic assistance (supports as well as operative) and general supportive measures (correction of anemia, diet, etc.). When combined with this basic program, the newer medical adjuncts, judiciously employed, will assure the patient with arthritis a complete program of therapy.

During the past few years a number of drugs have found a place in the medical treatment of arthritis. These include gold salts, cortisone and corticotropin (ACTH), hydrocortisone (Compound F), benemid, phenylbutazone (butazolidin) curare-like drugs and hyaluronidase. Time and experience have demonstrated their limitations and indications.

GOLD THERAPY

Gold salts have been used for the treatment of rheumatoid arthritis for twenty years but there are still differences of opinion as to their value. Despite the fact that some reliable investigators have been unable to demonstrate any benefit in their cases, gold salts are generally considered useful therapy for rheumatoid arthritis. Most observers would possibly agree that gold salts do help a majority of patients with rheumatoid arthritis in that a remission appears earlier than when just basic measures are employed. The same observers, however, would no doubt admit that the recurrence rate of rheumatoid arthritis certainly is unhappily high in the treated patients and it seems that at the end of five or six years those treated with gold fare little better than the others. For these reasons and also because of the possibility of development of reactions such as dermatitis, stomatitis, gastrointestinal toxicity, hematologic disorders and renal toxicity, many physicians are unwilling to treat the occasional patient with gold salts.

It must also be realized that the method of action of gold is not known. Moreover, gold should not be given before simpler basic measures have been tried or to patients in whom the diagnosis is in doubt, or fixation and deformities comprise the entire clinical picture. Advocates of gold therapy consider the patient with rheumatoid arthritis and active synovitis as the correct candidate for treatment.

Because it is believed that to be effective, gold must be absorbed in solution, the soluble salt (gold sodium thiomalate or gold thiogluone in oil) is recommended. Ten milligrams is injected intragluteally, followed one week later by an injection of 25 mg., and 50 mg. the third week; thereafter 50 mg. is injected at weekly intervals until from 16 to 20 injections have been given. The development of a reaction is an indication for discontinuance of the drug. If the patient shows no improvement after the twentieth injection, there is little reason to continue administration of the drug. Should improvement occur, however, maintenance doses of 50 mg. every two or three weeks indefinitely are believed by some to reduce the relapse rate, though this may be questioned.

Gold should be administered only by the physician versed in its limitations and dangers. Moreover, the patient should be informed of the need for continued medical visits, repeated blood counts and urinalyses, as well as the risks involved.

CORTISONE AND CORTICOTROPIN

The initial enthusiasm for the use of ACTH and cortisone as antirheumatic agents has now been replaced with a more practical working knowledge of when these drugs may be used for the greatest good. Not all patients with rheumatoid arthritis should be given these potent agents. First, it must be appreciated that neither drug can cause arrest of the development of rheumatoid changes despite the evidence of well-being which may result. Approximately 40 to 50 per cent of patients with rheumatoid arthritis are troubled with mild to moderately severe arthritis, manifested by fatigue and stiffness, slight swelling, and soreness of the involved joint. Most of them can get along by reducing the amount of physical activity, increasing the amount of rest, institution of physical therapeutic measures (with arthritic exercises) and use of sufficient amounts of aspirin. Because ACTH and cortisone have no effect on progress of the disease, nothing is gained

by using either drug in this group of patients. In the other 50 to 60 per cent of cases, many have already deformed joints with limited motion but no active systemic symptoms; again ACTH and cortisone would not help these patients. The remaining patients have acute debilitating involvement; in some of these at least temporary relief will be obtained by administration of ACTH or cortisone and in a small percentage this benefit will be more or less permanent.

Cortisone and ACTH may be considered for treatment of those patients with rheumatoid arthritis which is progressing rapidly despite employment of all other therapeutic measures. Those patients whose disease can be controlled with simple measures but who may be confronted with more trying periods which require their continued activity could also be given ACTH or cortisone for temporary assistance. It has been noticed that a few fortunate elderly persons with rheumatoid arthritis can be kept comfortable with small daily doses (25 mg.). Finally, in patients in whom an active program of corrective physical therapy is to be employed, these drugs may help facilitate motion by making the patient more comfortable.

ACTH is a definite aid in treating acute attacks of gout which may be resistant to colchicine or in a patient in whom a therapeutic dose may cause an unusual amount of gastrointestinal distress. In such cases 50 mg. of ACTH is given every six to eight hours until relief is obtained or a total of 200 mg. has been administered. It is necessary for the patient to take 1/100 gr. of colchicine three times a day or four times daily during administration of ACTH and to continue taking a daily dose so as to prevent recurrences following withdrawal of ACTH. If a patient cannot take colchicine three or four times daily, it should be given as often as tolerated.

When ACTH or cortisone is indicated for a patient with rheumatoid arthritis, the dosage should be kept as low as possible. It is no longer the purpose to alleviate all symptoms, but rather to diminish their intensity without producing hypercorticism. The choice of medication is usually dependent on the ease of administration. Cortisone probably should not be administered in daily dosage larger than 75 mg. given in divided doses. When cortisone is withdrawn, it should be done slowly, and administration of ACTH for several days may help to stimulate the adrenal cortex. When a patient who has received prolonged cortisone therapy is subjected to some shocking procedure (such as operation), it is important to look carefully for signs of shock associated with adrenal cortical depression. Slocumb and Lundy[1] advised that these patients be given daily intramuscular injections of 100 to 200 mg. of cortisone for two or three days preoperatively and daily postoperatively until the danger of shock is past.

HYDROCORTISONE

Hydrocortisone, also available for treatment of rheumatoid arthritis, has the same antirheumatic effect as cortisone. However, it seems unlikely that it will prove more beneficial than cortisone in such cases. Moreover, hypercorticism will result from excessive amounts of hydrocortisone.

The intra-articular injection of hydrocortisone acetate will temporarily alleviate the symptoms of many patients with rheumatoid arthritis. Unfortunately, relief lasts only a few hours or at most a few days and repeated injections do not produce any longer relief. When a patient has osteoarthritis as well as rheumatoid arthritis, the relief is more spectacular. This applies chiefly to weight bearing joints.

In some patients symptomatic osteoarthritis of knees and ankles can be considerably relieved by intra-articular injection of hydrocortisone. This agent has a unique property of overcoming pain, stiffness, and often swelling, when applied locally in 25 to 50 mg. doses. The duration of relief varies without apparent reason and may last for many months. Repeated injections seem to afford the same relief, but if symptoms recur too rapidly, repeated injections are not feasible. If the initial injection fails to afford relief, it would be advisable to repeat the procedure at least one or two times

with slightly larger doses. The knees, ankles, and interphalangeal joints offer the best sites for treatment. The hip is more difficult to inject. Care must be exercised to avoid injecting Compound F into an infected joint.

Injections of hydrocortisone into the acutely involved joints of patients with gout may alleviate the pain and swelling. This has proved of value when the usual drugs of choice were contraindicated, as in the patient with gout and an acute gastric ulcer or an intestinal lesion that could be aggravated by colchicine. The drug can also be helpful when physical therapy of an involved joint is hindered because of undue pain.

BENEMID

In the past, management of the patient with gout between acute attacks and prophylaxis of the acute attacks centered around a low purine—low fat diet, and possibly large doses of aspirin (40+ grains/day). Some therapists have gained the impression that daily doses of colchicine help prevent recurrences of acute attacks of gout. Colchicine's action is unknown but it has been evident that it lacks a uricosuric effect. In benemid we now have a drug which has a pronounced uric acid diuretic effect and it appears to be effective in reducing the chronicity, and possibly the number of acute attacks, of gout. Benemid is often mistakenly given for acute attacks and sometime it is used for two to three days then discarded. It should be prescribed with the understanding that, if tolerated, its administration should be continued until it is evident that the pattern of attacks has been altered favorably or that it has not helped.

Benemid acts through the renal tubules and it does not allow complete reabsorption of filtered urates. It must be given in daily doses of 1 to 2 gr. but if nausea develops, the dosage should be reduced. Aspirin will nullify its action. It is still necessary to treat acute attacks of gout with colchicine or one of the newer agents, even while benemid is being given.

PHENYLBUTAZONE

During the past year phenylbutazone has been available as an antirheumatic drug. It has proved helpful at least in the temporary management of rheumatoid arthritis (including rheumatoid spondylitis). Approximately 7 out of 10 patients with symptomatic rheumatoid arthritis obtain subjective relief, which in some cases means almost complete alleviation of symptoms. Why absolutely no response is obtained in some patients is not known. The manner of action is also not known, but the reduction in swelling and size of nodules, and the increase in motion suggest more than mere analgesic properties.

Because butazolidin is not innocuous, adequate precautions must be taken. Agranulocytosis has been reported in a moderate number of cases and one death has been reported following its administration. It often causes severe abdominal pain, as well as nausea and vomiting. However, if taken immediately after meals, it is less likely to cause a gastrointestinal disturbance. It should not be given to patients with gastric ulcers and may be given only with extreme caution to those with a history of an old peptic ulcer. Edema, jaundice, dermatitis, vertigo, and thrombocytopenia also have been reported following its use.

Butazolodin is administered in doses of 200 mg. after each meal. It may be given four times daily but the increase in dosage does not seem to increase the efficacy of the drug to any unusual degree. A seven to ten day trial will suffice to determine if any benefit will be obtained. If no improvement results, it seems useless to continue the medication. If improvement does occur, the aim should be to obtain the maximum benefit then reduce the daily dosage to the minimum required. Occasionally, comfort can be maintained by administration of 100 mg. three times a day. Patients who take butazolidin should be warned to reduce their salt intake, as sodium retention and edema will quickly follow administration of the drug. Therefore, its use in patients with cardiac or renal damage may be harmful. As the drug has been available only a short

period, its final value remains undetermined.

Butazolidin has also given symptomatic benefit to some patients with severe osteoarthritis. Acute gout responds favorably to butazolidin and it may prove the most effective treatment. Chronic gouty arthritis has been relieved by this agent; 100 to 600 mg. daily in divided doses is sufficient to control symptoms. This drug also has the property of lowering the serum uric acid level. If this apparent effectiveness in gout continues and toxicity does not become a greater problem, some patients may find butazolidin more helpful than colchicine.

HYALURONIDASE

One of the distressing complications of hemophilia is hemarthrosis. It now appears that injection of 1000 turbidity reducing units of hyaluronidase (mixed with a 1 per cent solution of procaine) into the acutely involved joint will relieve the pain and allow better mobility within forty-eight hours, resulting in greater salvage of joints.[2]

OTHER MEDICAL ADJUNCTS

The increasing list of antibiotics makes available additional medications to combat infectious (bacterial) arthritis. However, they are indicated only when a specific articular infection is demonstrated. Roentgen-ray treatment continues to afford relief to many patients with rheumatoid spondylitis. The muscle-relaxing drugs, such as tolserol, are helpful in some patients with muscle spasm.

CONCLUSIONS

The medical adjunctive treatment of arthritis represents only one facet in our attack on this disease. Preservation of articular function is one of the primary aims, and use of drugs without the proper rest, physical therapy, general supportive measures and other accepted basic measures has failed to produce the best results.

Aspirin and other salicylates remain valuable therapeutic agents in most types of arthritis and despite enthusiasm for newer drugs, if the same benefits can be obtained from these simple medications, they should not be discarded in favor of toxic preparations. During the last few years, though, other drugs have been shown to be of additional value in the treatment of arthritis, and their correct use will afford more relief for those patients with arthritis.

REFERENCES

1. Slocumb, C. H. and Lundy, J. S.: The use and abuse of cortisone in surgery, S. Clin. North America 32:1105 (Aug.) 1952.

2. MacAusland, W. R., Jr. and Gartland, J. J.: Treatment of acute hemophilic hemarthrosis. New England J. Med. 247:755 (Nov. 13) 1952.

DISCUSSION

Dr. Jack Wickstrom, (New Orleans): I wish to congratulate Dr. Weiss on his comprehensive, concise presentation, and wish to echo his somber words of caution as to the limitations of some of the newer steroid and other anti-rheumatic drugs. In this age of "Wonder Drugs," "Miracle" fibers and fabrics, jet planes and atomic bombs, wishful thinking has led some of us to develop a therapeutic misconcept in the problems of arthritis. The search for the "Single Pill" or injection or the magic device that can be applied by simply pushing a button that will solve the multiple problems presented in managing arthritics is intriguing but impractical.

In dealing with any clinical problem with as many varied etiological and pathological facets as arthritis presents, it should be obvious that no single therapeutic agent or device can be universally successful. However, combining proper drug therapy with a comprehensive plan of joint protection during the period of acute inflammation, followed by therapeutic exercises once the inflammatory reaction has subsided, and the prevention of further trauma to the involved joints by adequate bracing, can salvage much useful function in these joints and can rehabilitate many of these patients.

Splinting of the acutely inflamed joint in a position of function serves to prevent deformity, reduce the degree of discomfort and the necessity for large amounts of sedation. Splinting is maintained only as long as the acute inflammatory reaction is evident.

Therapeutic exercises are invaluable in breaking the vicious cycle of muscle atrophy, joint instability—pain on attempted use, followed by further inhibition of muscle tone and disuse. This is most dramatically evident in managing the osteoarthritic knee in which progressive resistance exercises by use of a weight suspended from the ankle can restore tone to the quadriceps, and by doing so, produce stability of the knee with subsequent reduction of pain in the osteoarthritic knee to the point of insignificance.

The use of braces to correct deformity is best illustrated by the adaptation of hand braces used in restoring function after severe trauma. By overcoming joint contractures and restoring muscle

balance, many severely deformed arthritic hands can be restored to a remarkable degree of usefulness. Bracing also offers much as a means of preventing joint trauma and subsequent reactivation of the arthritic process. Such protective bracing is especially beneficial in managing arthritic knees and ankles.

Cortisone and hydrocortisone appear most beneficial when utilized to diminish the severity of symptoms of pain and inflammation of the joints so that corrective therapeutic exercises can be instituted earlier and with more vigor. The local instillation of hydrocortisone into osteoarthritic and post-traumatic arthritic knee joints has been most encouraging in this respect.

Butazolidin has proved exceptionally beneficial in the same respect of alleviation of acute joint symptoms to allow restoration of joint motion by early exercises. This has been especially true in adhesive peri-capsulitis.

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1430 Tulane Avenue

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DIAGNOSIS OF DIABETES

This year, November 15 to November 21, is Diabetes Week. Special attention will be directed during this week to finding the unknown diabetic. The campaign has been inspired and organized by the American Diabetes Association and accomplished through the combined efforts of the Association with the State and county medical societies. Local programs are sponsored and conducted directly by the local societies. In previous years it has been felt that probably for every diabetic under treatment there is one that is yet undetected. When this diabetes is recognized and control instituted, the better chance there will be to avoid deteriorations.

While diabetes is one of the few important diseases in which laboratory procedures are necessary for intelligent management, careful clinical examination is essential for diagnosis. Only by such means can the proper classification be done and adequate laboratory procedures carried out. At this point it is necessary to emphasize again that the absence of sugar in the urine and a normal blood sugar do not eliminate diabetes. On the basis of experience, the American Diabetes Association has adopted standards which can be considered the upper limit of normal for blood sugar. Using venous blood in the Folin and Wu method, a blood sugar fasting of over 130, or after eating over 200, diabetes is regarded as present. However, Joslin makes the statement that "patients with glycosuria whose venous blood sugar is 130 mg. per 100 cc. fasting, or 170 mg. per 100 cc. at any other time of day, are diagnosed as diabetics." With capillary blood sugar determinations used in the Folin-Malmros method the figures are slightly higher.

In many instances in which clinical examination is suggestive but blood sugar determinations are inconclusive, glucose tolerance tests, possibly repeated, become essential. Also, in some patients without symptoms and with glycosuria, glucose tolerance tests are also necessary. At this point the matter for the clinician to decide is which glucose tolerance test and what is its interpretation. Womack and Moyer[1] have reported on the evaluation of four types of glucose tolerance tests in a heterogeneous group of 71 patients with glycosuria and without symptoms. The tests were the four commonly used, which were the three hour, one dose ("standard") oral test, the one hour two dose (Exton-Rose) test, the intravenous test, and the two hour postprandial blood sugar level. They found significant disagreements in the interpretations of these tests as pertaining to individual patients. They found that fasting blood sugar levels, per se, were unreliable criteria for determining the presence or ab-

sence of diabetes mellitus, and similar disturbances of carbohydrate metabolism. They also reported that although the intravenous tolerance test was somewhat less sensitive than the standard oral test, both were considered satisfactory as clinical tests in suspected cases of diabetes mellitus. They considered the postprandial blood sugar determination compared well enough with the standard test to be of value as a presumptive test for diabetes. The one hour, two dose, oral (Exton-Rose) test they considered as excessively sensitive and unreliable and should be discarded as a diagnostic laboratory procedure. They found, additionally, that the correlation between the degree of glycosuria and the severity of disturbance of glucose tolerance in this group of patients was poor. On the basis of the standard test among these 71 patients with glycosuria, 21 were found to be diabetic, 15 presumably diabetic, and 35 normal.

Soskin[2] has advocated adherence to the intravenous glucose tolerance test on the basis of clinical considerations and the results obtained in experimental animals. He considers that the glucose tolerance test is chiefly an index of the efficiency of the blood sugar regulation by the liver under the influence of various endocrine glands, in which the hormones from the pancreas are among others that are contributory. He feels that the variability of absorption from the intestinal tract when glucose is given by the oral route is such as to make the test under these conditions practically worthless.

To further clarify a situation when even a glucose tolerance test is inconclusive, Berger[3] advised administration of 100 mg. of corticotropin prior to the standard glucose tolerance test. The test was carried out on known diabetics, siblings of known diabetics, and controls. In 12 known diabetics, after corticotropin, the curve was approximately 30 per cent higher at two hours than without corticotropin. Among 14 siblings, the blood sugar at two hours averaged 200 before, and 280 after the administration of corticotropin. In 38 controls, there were two instances in which the use of corticotropin was followed by a rise in the blood sugar curve which was regarded as significant. The author suggests that this study may improve the sensitivity of the glucose tolerance test but that appropriate follow-ups of from five to ten years will be necessary to prove it.

Best has stated recently that a lack of insulin produces a failure of fat, protein, and carbohydrate formation and storage, a decreased oxidation of sugar and derangement of phosphate and potassium metabolism, with a loss of these substances, as well as sugar, nitrogen, and ketones, from the body.

With these considerations in mind, the physician can approach the problem of diagnosis of diabetes with gravity. He should feel that the problem is one susceptible of solution if given sufficient time and cooperation.

1. Womack, C. R., anl Moyer, J. H.: Practitioner 3:479. 1952.
2. Soskin, Samuel: Postgraduate Med. 10:108 (August) 1951.
3. Berger, Herbert: J. A. M. A. 148:364 (Feb. 2) 1952.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

1954 ANNUAL MEETING

The 1954 Meeting of the Louisiana State Medical Society will be held in New Orleans on May 20, 21, and 22 (Thursday, Friday, and Saturday) with headquarters at the Roosevelt Hotel.

After discussion with members of the Society in various sections of the State, it was concluded that it was not possible to obtain suitable accommodations for this meeting outside of the City of New Orleans. The Orleans Parish Medical Society, as a conse-

quence of this, has agreed to again be host to the Society in 1954 and plans are now under way for arrangements in connection with the meeting.

Although there has been considerable delay in initiating these plans, with the cooperation of the doctors of New Orleans, the Roosevelt Hotel and the Chamber of Commerce, a good meeting is anticipated. Further data concerning the meeting will be published when this is available.

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TOO LITTLE, TOO LATE

When the House of Delegates approved and adopted our group plan of accident and health insurance, the Continental Casualty Company of Chicago, one of the oldest and most reliable companies writing this kind of insurance today, agreed to accept *all* applicants regardless of disability and without a doctor's examination, provided 50% of our members enrolled during the Charter Enrollment Period.

For one reason or another 75% of our members waited for 50% to apply. You procrastinated too long. The enrollment period has ended; consequently the company had to refuse coverage to the uninsurable doctors.

You are reminded, however, that you may still enroll at any time *if* you are in good health. You should submit your application, because this is your plan. It is sponsored by your Society, for your benefit. It needs your support and you need its protection. You will receive better service if you are insured by a company sponsored by your Society, and where you can take up any claims or other matters locally, because all claims will be paid by Emery & Kaufman, 314 Camp Street, New Orleans, Louisiana State Administrators for the Continental Casualty Company.

If enough interest is shown by our members, during the next few months, we will request the Company to allow us the privilege of another open enrollment period, during which time they will again accept application from the uninsurable members and issue policies to them, if a sufficient number of our members enroll to bring the total number up to 50 per cent of the total membership in our Society. Since the Company has agreed to include the number of members already enrolled in the Orleans Parish Medical Society group as part of the required 50 per cent, it should not be too har a task to secure the percentage requested of us, and this should be our inducement to all members—the insurable as well as the unsurable—to enroll at once.

Many of our fellow members cannot get this insurance or any other insurance, without being rated up or submitting to some waiver provision, unless they secure same through our group policy, and then only during an open enrollment period. If the members who have no disability would enroll, it would help our less fortunate members to protect themselves and their families, and would no doubt encourage the Company to give them another chance at an open enrollment period. Won't you enroll now while you can? Tomorrow may be too late.

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WORTHWHILE SUGGESTION

Your Secretary attended a most interesting and enthusiastic meeting of a joint session of the Evangeline Parish and Avoyelles Parish Medical Societies on October seventh at Ville Platte, where he among other members and legislator guests discussed the question of chiropractic as it affects our State and the Nation. It was a very instructive meeting from many points of view, creating quite a bit of interest and enthusiasm and establishing methods of contacting our legislators in our fight against these cultists at our next legislative session.

We believe that more meetings of this nature should be held by our component parish societies, inviting the respective legislators of these parishes to the meetings. Much can be accomplished in educating these legislators as well as some doctors as to what chiropractic would mean to our State if they were legalized to practice here.

After the legislature is in session, it will be too late to meet and defeat this attack

upon our profession and especially to protect our people from the damaging effects of allowing these cultists to practice in our State. We should begin our campaign now to pledge our legislators to vote against any bill they might have introduced to legalize themselves to practice in Louisiana.

You know that these chiropractors are working and have been active since the last session of the legislature.

Don't let us be caught with our "pants down." Why not get busy and help us give these cultists the worse beating they have ever received?

We would not suggest or be in favor of changing our Medical Practice Act. This Act has been upheld by not only the Supreme Court of Louisiana but also by the Supreme Court of the United States, and in every case where it has been appealed to these Courts, the decision has always been in favor of the State Board of Medical Examiners, and against the Chiropractor. This, we think, speaks well for our law, and too, quite a few of the states have copied our Act, and the practice of medicine in these respective States is controlled by it today.

Of course, the Chiropractors, first of all, would like to have their separate Board, and the next best thing they would like would be to have our Act amended.

If every member of our Society does his or her duty in this fight, we can defeat their efforts to be legalized to practice their cult in Louisiana and keep our Medical Practice Act as it is at the present time.

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LOUISIANA ACADEMY OF GENERAL PRACTICE

The Louisiana Academy of General Practice held its Annual Convention at the Bentley Hotel, Alexandria, on September 21-23, and to say it was a very enjoyable and instructive meeting would be putting it rather mildly. There was a good attendance and the members of the faculty of the University of Tennessee presented the practitioners with a very instructive program which was enjoyed by all present.

It was my pleasure to attend this meeting with Dr. Philip H. Jones, our President, and it goes without saying that we enjoyed not only the scientific treat offered but the many courtesies shown us and the delightful social functions planned for the enjoyment of its members and guests.

The following officers were elected for 1953-1954:

President—Dr. John W. Atkinson, Gretna, La.

President-elect—Dr. Janie Topp, Lake Charles, La.

Secretary—Dr. Esmond A. Fatter, New Orleans, La.

1st Vice President—Dr. Vincent P. Blandino, New Orleans, La.

2nd Vice President—Dr. W. A. McBride, Shreveport, La.

Treasurer—Dr. Edwin R. Guidry, New Orleans, La.

Past President—Dr. E. L. Carroll, Columbia, La.

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THE ST. LOUIS CLINICAL SESSION

If the members of our Society expect to attend the Seventh Annual Clinical Session of the American Medical Association December 1-4 in St. Louis, it is time to make hotel and traveling reservations. Judging from the program prepared for this year, we might expect an unusually interesting meeting, covering many and varied topics, furnishing a post-graduate course in medicine and surgery.

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INTERESTING OBSERVATION

Does the following sound like we have a shortage of doctors in this country? Many of the people who are claiming a shortage of doctors exists, often do so to create the impression that the American people are suffering from the want of good medical care, and as a remedy, they would and do advocate government medicine, which we all know would give us political medical services, inferior in character, and wholly unacceptable to the American people. The citizens of this nation still believe in the free-enterprise system of medicine and demand the preservation of that most precious personal relationship between doctor and

patient, and will not be satisfied with less.

"TWICE AS MANY interns and resident physicians today are completing their training and furthering their education through hospital work as there were prior to World War II. During 1952-1953, there were 7,645 interns and 16,867 resident physicians on duty in the nation's hospitals, compared to a total of approximately 12,000 in 1940."

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FACTS WORTH KNOWING

The term of years during which there is a legal obligation to pay debts varies from two years in Texas to eight years in Wyoming. Legal action to collect a bill must be taken within the statutory period or the debt is outlawed and a physician, for example, cannot recover at law from the patient.

The following is a resumé of the statutory periods in the forty-eight states and the District of Columbia taken from a recent issue of Medical Economics:

2 years: Texas.

3 years: Alabama, Arizona, Arkansas, Delaware, District of Columbia, Florida, Kansas, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, Virginia, and Washington.

4 years: California, Georgia, Idaho, Nebraska, Nevada, New Mexico, and Utah.

5 years: Illinois, Iowa, Kentucky, Missouri, Montana, West Virginia.

6 years: Colorado, Connecticut, Indiana, Maine, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, North Dakota, Ohio, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Vermont, Wisconsin.

8 years: Wyoming.

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LOUISIANA STATE MEDICAL SOCIETY NEWS

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Morehouse	Third Thursday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

DR. JAMES ALLEN ELECTED CHAIRMAN OF THE NATIONAL COMMITTEE FOR RESEARCH IN EYE DISEASES AND DISABILITIES

Dr. James Allen, Professor of Ophthalmology, Tulane University, New Orleans, has been elected chairman of the newly formed National Committee for Research in Eye Diseases and Disabilities, an organization opening a new era in the nation's effort to reduce the alarming number of persons handicapped through eye disorders. The new "solid front" affiliation of medical and rehabilitation authorities was formed during the meeting in Chicago of the American Academy of Ophthalmology and Otolaryngology.

Recognition many months ago of a growing need for closer cooperation brought together representatives of professional and lay groups, including all established and accredited organizations of national scope.

"Too long have eye physicians had insufficient understanding of the total problem of the visually handicapped; and those concerned with education and rehabilitation have failed to help in promoting research to prevent eye disabilities," declared Dr. Allen when accepting his new position.

Applauding what he termed, "a significant promise of concerted action," Committee Secretary, Dr. Lorand V. Johnson, Professor of Ophthalmology, Western Reserve University, Cleveland, summarized the airs of the group as including: assessment of research and training needs, encouragement and assistance to medical schools, national referral activities, promotion of cooperation between professional and lay groups, and such special research as cannot be effectively solved by any single member agency.

Other officers in addition to Dr. Allen and Dr. Johnson are: Dr. V. Everett Kinsey, Professor of Ophthalmic Research, Wayne University, Detroit, and Director of Ophthalmic Research, Kresge Eye Institute, Detroit, first vice-president; M. Robert

Barnett, Executive Director of the American Foundation for the Blind, New York, second vice-president; Dr. Franklin Foote, Executive Director of the National Society for the Prevention of Blindness, New York, treasurer.

TWO NEW DEPARTMENT HEADS NAMED AT LSU

Two new department heads have been named to fill vacancies at the Louisiana State University School of Medicine, it has been announced by President Troy H. Middleton.

Dr. Hugh Thompson Beacham, former clinical associate professor and a member of the L. S. U School of Medicine faculty since 1931, was named professor and head of the department of urology. Dr. C. Barrett Kennedy, former clinical associate professor of dermatology, was named professor and head of the department of dermatology.

Dr. Beacham has been an instructor, assistant professor and clinical assistant professor at the L. S. U. School of Medicine. Prior to this he was a clinical assistant at Tulane University. He has also been a senior visiting surgeon in the Charity Hospital urology division.

Dr. Beacham replaces Dr. P. Jorda Kahle who retired recently. The new department head is a native of Summit, Miss., received a B. S. degree from the University of Mississippi and M. D. and M. S. degrees from Tulane.

Dr. Kennedy replaces the late Dr. James K. Howles as head of the department of dermatology. Serving L. S. U. since 1934, Dr. Kennedy received his M. D. degree from the Tulane Medical School in 1932 and interned at Charity Hospital.

TUBERCULOSIS CONFERENCE

Dr. C. M. Sharp, Jacksonville, Florida, was elected president of the Southern Tuberculosis Conference for 1954 by the delegates attending the 1953 Conference held in New Orleans at the Jung Hotel on October 1st, 2nd, and 3rd.

Miss Marietta Rocquet, executive secretary of the Tuberculosis Association of New Orleans, was elected vice-president, and Bryan Wilson of Memphis, secretary-treasurer.

The Southern Trudeau Society, medical section of the tuberculosis association, elected officers with Dr. P. M. Huggin of Knoxville as president; Dr. Sydney Jacobs of New Orleans as vice-president; and Dr. Robert K. Oliver of Montgomery, Ala., as secretary.

Named to the Executive Council of the Southern TB Conference organization where Julian Sipple of Savannah, Ga.; Thomas Debeney of Charleston, W. Va.; Dr. Huggin; and K. W. Grimley of Birmingham, Ala., and out-going president of the Conference.

Over 400 tuberculosis association workers and TB doctors attended the 39th annnual event being held in New Orleans for the first time. Outstanding speakers from the Veteran's Administration, the National Tuberculosis Association, the American Trudeau Society, and from England appeared on the three day program.

The Conference will be held next fall in Asheville, N. C.

AAGP PLANS ANNUAL ASSEMBLY IN CLEVELAND

The American Academy of General Practice makes the first official announcement of its Sixth Annual Scientific Assembly which will be held March 22-25, 1954 in Public Auditorium, Cleveland, Ohio, by disclosing the names of such top-flight men as Sir Alexander Fleming, Dr. Howard Rusk, and Dr. E. J. McCormick who are headlining the scientific program.

The entire program will be presented by men of equal note and by leaders in the fields to be covered. Family doctors who have already heard of the meeting, term it the most significant and interesting yet presented by the Academy. The program itself will be fast-paced, well diversified, and completely applicable to daily practice.

The Committee on Scientific Assembly, headed by Dr. John Mosher of Coeymans, N. Y., promises that these four days will unquestionably be the most pleasant, as well as the most instructive, doctors have ever spent at a medical meeting.

A quick look at the program shows symposia on peptic ulcer, tuberculosis, headache and dizziness, and antibiotics, a live clinic on rehabilitation procedures, presentations on the commonly missed diagnoses of skin diseases, the almost forgotten woman—the routine multipara, and unnecessary gynecologic surgery. Arthritis, anemia, surgical problems and recent advances in therapeutics will also be covered.

To supplement the formal lecture program, the Committee is putting together a scientific exhibit section of equal distinction and interest. The list is still in process of selection, but it will include more than 60 exhibits. At least half of them will be original, making their debut at this meeting. All of them will be closely integrated with the lecture program.

A full social program is being planned for the wives culminating with a President's Reception, the first the Academy has had, for the entire attendance.

MIDWINTER SEMINAR IN OPHTHALMOLOGY AND OTOLARYNGOLOGY

The eighth annual University of Florida Midwinter Seminar in Ophthalmology and Otolaryngology will be held at the Sans Souci Hotel in Miami Beach the Week of January 18, 1954. The lectures on Ophthalmology will be presented on January 18, 19 and 20, and those on Otolaryngology on January 21, 22 and 23. A midweek feature will be the Midwinter Convention of the Florida

Society of Ophthalmology and Otolaryngology on Wednesday afternoon, January 20, to which all registrants are invited. The registrants and their wives may also attend the informal banquet at 8 p. m. on Wednesday. The Seminar schedule permits ample time for recreation.

The Seminar lectures on Ophthalmology this year are Dr. W. B. Anderson, Durham, N. C.; Dr. W. P. Beetham, Boston; Dr. W. C. Owens, Baltimore; Dr. A. B. Rees and Dr. M. C. Wheeler, both of New York City. Those lecturing on Otolaryngology are Dr. E. N. Broyles, Baltimore; Dr. H. P. House, Los Angeles; Dr. W. M. McNally, Montreal, Canada; Dr. Dorothy Wolff and Dr. D. Woodman, New York City.

POST-GRADUATE TEACHING FUND FOR GIFT SUBSCRIPTIONS TO HOSPITALS

The International Academy of Proctology announces the establishment of a post-graduate teaching fun to provide gift subscriptions to the American Journal of Proctology to 750 of the largest Hospital Libraries in this country and abroad. Inasmuch as the American Journal of Proctology is the only official Proctologic Journal in the world, these subscriptions will provide a continuing post-graduate course for interns, residents and hospital attending staffs in all major hospitals.

As a teaching and educational organization, the Academy is pre-eminent in Proctology. The Annual Conventions are literally post-graduate courses, and the Journal has raised the level of Proctology throughout the world.

The International Academy of Proctology recently announced the establishment of a Research Fellowship in Proctology with a grant of $1200.00 to the Jersey City Medical Center, Jersey City, New Jersey.

1954 IODINE RESEARCH AWARD NOMINATIONS REQUESTED

Nominations are now being received by the American Pharmaceutical Association for the 1954 Chilean Iodine Educational Bureau Award recognizing outstanding research in the chemistry and pharmacy of iodine and its compounds as applied in pharmacy or medicine.

The award consists of $1,000 and a diploma setting forth the reasons for selection of the recipient. It may be presented each year at the annual meeting of the Association.

Any member of the Association may propose a nominee by submitting eight copies of each of the publications to be considered in the competition, a biographical sketch of the nominee including date of birth, and a list of his publications. Eight copies of the nomination must be submitted to Robert P. Fischelis, Secretary of the American Pharmaceutical Association, 2215 Constitution Ave., N. W., Washington 7, D. C. To be eligible for the 1954 Award, nominations must be received on or before January 1, 1954.

A nominee must be a resident of the United States or Canada. He must have accomplished outstanding research in the chemistry or pharmacy of iodine and its compounds as applied in pharmacy or medicine.

During the period covered by the nomination the nominee shall have been actively engaged in, shall have completed, or shall have published a report upon the line of investigation for which the award is made. During the period of two years prior to the date of nomination, the nominee shall not have been engaged in research under the sponsorship of the Chilean Iodine Educational Bureau, Inc.

The recipient will be selected by an award committee which is appointed by the chairman of the Association's Council. The present committee includes Justin L. Powers, chairman; Paul Block, Louis Gershenfeld, Harvey B. Haag, Lloyd M. Parks, Heber W. Youngken, and Charles O. Wilson.

The recipient will deliver a paper or lecture upon the subject of his scientific work at the meeting at which the award is conferred. His paper, or address, will then be published in the Journal of the American Pharmaceutical Association. Travel expense to the meeting at which the award is to be made is provided for up to $250.

CONFERENCE ON CARE OF THE LONG-TERM PATIENT

Grants totalling $35,000 to provide for the national Conference on Care of the Long-Term Patient, to be held in Chicago, March 18-20, 1954, have been made by the Rockefeller Foundation, the Liberty Mutual Insurance Company, the New York Life Insurance Company, the Metropolitan Life Insurance Company, and the Equitable Life Assurance Society. Approximately half of the funds needed are required for the preparatory or pre-Conference phase and have been made available by the Foundation. The other half—for the Conference meeting—has been provided by the insurance companies.

The American Hospital Association, the American Medical Association, the American Public Health Association, the American Public Welfare Association, and the U. S. Public Health Service are serving as sponsors and supplying staff for the Conference, which has been envisioned as the logical sequel to the previous National Conference on the Preventive Aspects of Chronic Illness which was held in Chicago in March of 1951. The Commission on Chronic Illness is serving as the planning committee for the 1954 Conference.

BECTON, DICKINSON INTRODUCES NEW INTERCHANGEABLE SYRINGE

Becton, Dickinson and Company has announced

the introduction of "BD Multifit," a new syringe that provides the convenience and economy of interchangeable parts, the performance of an individually fitted syringe and the durability of a clear glass molded barrel.

A leader in the syringe field since 1898, when it first began to produce the then revolutionary Luer all-glass syringe, the company revealed that Multifit has been achieved after many years of research and development of special equipment.

Multifit syringes are being introduced in 2 cc. and 5 cc. sizes. Later the company plans to introduce additional sizes.

Performance of the new interchangeable syringe has been tested for two years in metropolitan hospitals. In every case, exceptional savings in time and equipment were reported. Back-flow and jamming were virtually eliminated. Nurses were able quickly to reassemble, handle and clean the equipment.

Multifit syringes apply the Becton, Dickinson and Company principle of unground, molded clear glass barrels to preserve the protective "skin" of the glass and thus to ensure maximum durability.

DRAMATIC RESULTS WITH ISUPREL CITED IN TREATING EMPHYSEMA

Use of Isuprel, a sympathomimetic aerosol, has produced "very dramatic relief following a few inhalations" in patients experiencing bronchiolar spasm accompanying emphysema, according to Dr. Louis L. Friedman, Birmingham, Ia.

Writing in the Journal of the Medical Association of the State of Alabama (22:255, April 1953), he calls the ultimate prognosis in emphysema "poor" but adds that Isuprel and similar drugs are indicated in relieving spasm. Regular and routine use of Isuprel is frequently necessary.

Dr. Friedman recommends use of a barbiturate, bromide or any satisfactory sedative in acute attacks of dyspnea to relieve the apprehension of the patient. Anxiety tends to aggravate all of the clinical symptoms, especially dyspnea, he notes.

SURGICAL ASSOCIATION OF LOUISIANA

The Surgical Association of Louisiana will hold its Sixth Annual Meeting on Sunday, November 15, at the St. Charles Hotel, New Orleans, Louisiana, at which time the following scientific program will be presented:

Abdomino-perineal Resection of the Colon and Rectum, by Dr. Charles H. Mosely, Attending Surgeon, Lady of the Lake Hospital and Baton Rouge General Hospital, Baton Rouge, Louisiana.

The Complications of Colostomy, by Dr. Lawrence J. O'Neil, Chief, Independent Surgical Service, Charity Hospital, New Orleans, Louisiana.

Care of the Injured Hand, by Dr. Michael L. Mason, Professor of Surgery, Northwestern University, Attending Surgeon, Passavant Memorial Hospital, Chicago, Illinois.

Benign Breast Lesions, by Dr. Samuel Karlin, Assistant Professor of Surgery, Louisiana State University Medical School; Sr. Surgeon, Touro Infirmary; Sr. Visiting Surgeon, Charity Hospital, New Orleans, Louisiana.

Benign Pancreatic Disease, by Dr. Charles B. Puestow, Clinical Professor of Surgery, University of Illinois College of Medicine; Chief, of Surgery, Henroten Hospital, Chicago, Illinois; Chief, Surgical Service, Veterans Administration Hospital, Hines, Illinois.

Officers

President—Dr. T. Jeff McHugh, Baton Rouge.

1st Vice-President—Dr. J. Kelly Stone, New Orleans.

2nd Vice-President—Dr. George W. Wright, Monroe.

Treasurer—Dr. Edmund L. Leckert, New Orleans.

Secretary—Dr. Henry G. Butker, New Orleans.

Additional Members of the Board of Directors:

Dr. Howard R. Mahorner, New Orleans; Dr. Joseph A. Danna, New Orleans; Dr. John A. Hendrick, Shreveport; Dr. Ambrose H. Storck, New Orleans; Dr. Roy B. Harrison, New Orleans; Dr. W. Kernan Irwin, Baton Rouge; Dr. James D. Rives, New Orleans.

BOOK REVIEWS

Sterility: Its Cause and Treatment; by J. Jay Rommer, Springfield, Ill., Charles C Thomas, 1952, pp. 427, Illus. Price $12.50.

This book on sterility by Dr. Jay Rommer has a very large assortment of facts and theories pertaining to the barren couple. However, the book is poorly organized in that there is no systematic approach to the study of a sterile couple. Much more important, is the fact that there is no effort made to differentiate the important from the unimportant details. Too much space is given to the trivia and not enough to the significant aspects of a sterility work-up.

For the modern gynecologist interested in sterility this book offers nothing new. For the general practitioner working to improve his knowledge of the cause and treatment of sterility, only confusion is offered.

Entirely too much emphasis is placed on the pelvic pathology produced and the necessity for surgical correction of the retrodisplaced uterus. There are still some legitimate reasons for suspension of the uterus, but these are few and far between.

Also a statement is made that malignant degeneration occurs in about five per cent of fibroids. This was obtained from a reference printed in 1906. In 1952, when this book was published,

most authorities in this country placed the figure at less than one per cent.

All in all, in too many important aspects, this book is way out of date.

M. Duralde Claiborne, M. D.

Battle Casualties; by Gilbert W. Beebe, Ph. D. and Michael E. De Bakey, M. D. Springfield, Ill., Charles C Thomas, Publisher, 1952. pp. 277, illus. Price $10.50.

In *Battle Casualties* the authors have collated data of the Army Medical Service of World War II in order to aid in the planning and evaluation of surgical care for the wounded in modern warfare. The book is primarily of interest to the military surgeon; however, the opinions expressed are those of the authors and not of the Army.

This volume will prove af great interest to the men being called into the medical services at the present time. The civilian surgeon can obtain much valuable information about the purposes and problems of the military surgeon as well as about planning necessary for civilian defense.

The most impressive aspect of the volume is the tremendous amount of data which has been sifted and rendered into graphs and tables. It is useful for teaching and for obtaining data for comparison with hospital statistics.

Paul Trautman, M. D.

A Textbook of Clinical Neurology; with an Introduction to the History of Neurology; by Israel S. Wechsler, M. D. 7th ed. Philadelphia, W. B. Saunders, 1952. Pp. 801, illus. Price $9.50.

The seventh edition of this text remains the reference of choice for practitioners in the fields of medicine other than Neurology as well as a ready reference text for the practising neurologist. As pointed out in the preface to this edition, the subject of treatment of infectious diseases of the nervous system has been revised. In addition newer concepts in neurology, developed since 1947, the date of the last edition of this text, have been included.

The clear and concise approach to neurological examination found in the previous editions of this work is retained. The section on psychological diagnosis though brief, is overly compensated for by the dynamic approach to the neuroses found in the latter part of the text. The concluding introduction to the history of neurology completes a text which should be of invaluable use to the practising clinician.

T. Bloch, M. D.

PUBLICATIONS RECEIVED

Winfred Funk, Inc., N. Y.: Cure Your Nerves Yourself, by Louis E. Bisch, M. D.

Lea & Febiger, Phila.: A Primer of Cardiology, by George E. Burch, M. D. (2nd Edit.); Spatial Vectorcardiography, by George E. Burch, M. D., J. A. Abildskov, M. D., and James A. Cronvich, M. S.

Health Education Council, N. Y.: Films in Psychiatry, Psychology & Mental Health, by Adolf Nichtenhauser, M. D., Marie L. Coleman and David S. Ruhe, M. D.

Medical Library Co., N. Y.: Respiratory Diseases and Allergy, by J. S. Smul, M. D.

North Castle Books, Greenwich, Conn.: It's NOT ALL In Your Mind, by H. J. Barglund, M. D., and H. L. Nichols, Jr.

Charles C Thomas, Springfield, Ill.: A Source-Book of Medical Terms, by Edmund C. Jaeger, D.Sc.; Regional Block, by Daniel C. Moore, M. D.

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1. Greenhill, J. P.: Principles and Practice of Obstetrics, ed. 10, Philadelphia, W. B. Saunders Company, 1951, pp. 103-104; 311; 332.

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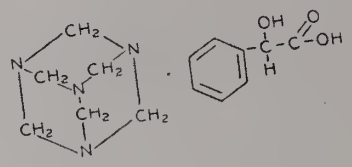

For tests and standards see Section B.

Actions and Uses.—Methenamine mandelate combines the actions of two established urinary antiseptics, methenamine and mandelic acid. The compound has the advantage that it acts to some extent as an acidifying agent, so that accessory medication to accomplish this is not ordinarily required as it is when either methenamine or mandelic acid is administered alone. However, in those infections caused by urea-splitting bacteria, preliminary acidification of the urine over a period of 24 to 36 hours prior to beginning therapy is essential to provide a urinary pH satisfactory for effective action of the compound. The combination also has the theoretic advantage that it is effective with smaller amounts of mandelic acid and may thus avoid the nausea and vomiting occasionally attributed to the use of mandelic acid alone.

Methenamine mandelate is useful as an adjunct for the treatment of pyelitis, pyelonephritis, cystitis, prostatitis, and infections accompanying a neurogenic bladder. It is effective against the following organisms commonly encountered in urinary tract infections: *Escherichia coli*, *Staphylococcus aureus*, *Staphylococcus albus* and certain streptococci. *Aerobacter aerogenes* and *Proteus vulgaris* are usually resistant, but not more so than to other commonly employed antibacterial agents. Comparative studies of the bacteriostatic and bactericidal action of methenamine mandelate indicate that its effectiveness is of approximately the same order as that of the sulfonamide drugs or of streptomycin. It is sometimes effective when drug resistance to other agents occurs with certain otherwise susceptible bacterial strains.

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*Perloff, W. H.: Am. J. Obst. & Gynec. *58*:684 (Oct.) 1949.

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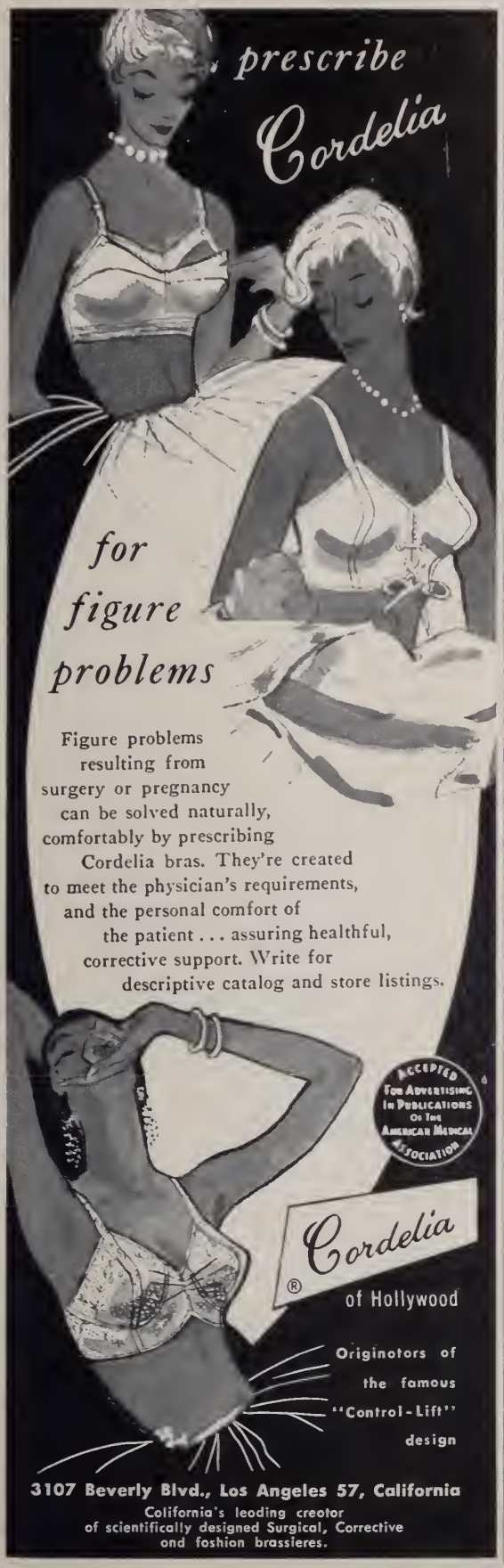

From where I sit *by* Joe Marsh

Modern Art Takes a Licking!

Did you know we had a real artist in town? Yes sir! Handy Jackson was a contributor to the Sculpture Exhibition at the Fair last week.

His work was streaky pink and curved all around—sort of streamlined. Caused quite a stir. Nobody was sure what it was supposed to be, but some liked it and thought it was good art. Handy gave me the lowdown:

"Why, it was nothing but a piece of cattle salt our cows have been lickin' at for months. I just had it mounted. Fooled a lot of folks—one fellow even wanted to buy it!"

From where I sit, Handy's "modern art" just shows how some people can be led astray. Some even get to be "experts"—especially about the other fellow's business. They're quick to tell a man how to practice his profession . . . or even to interfere with his preference for a temperate glass of beer. Let's live and let live—not set ourselves up as the "model" for the other fellow.

Joe Marsh

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The exact items available in loan closets in the different parts of the State vary. However, such things as bed pans, urinals, pitchers, colostomy bags, back rests, bed boards, crutches, sheets, hospital gowns, and even a few hospital beds and wheel chairs can usually be borrowed. In most instances, all that is required is a note from the attending physician, or social worker, certifying to the need.

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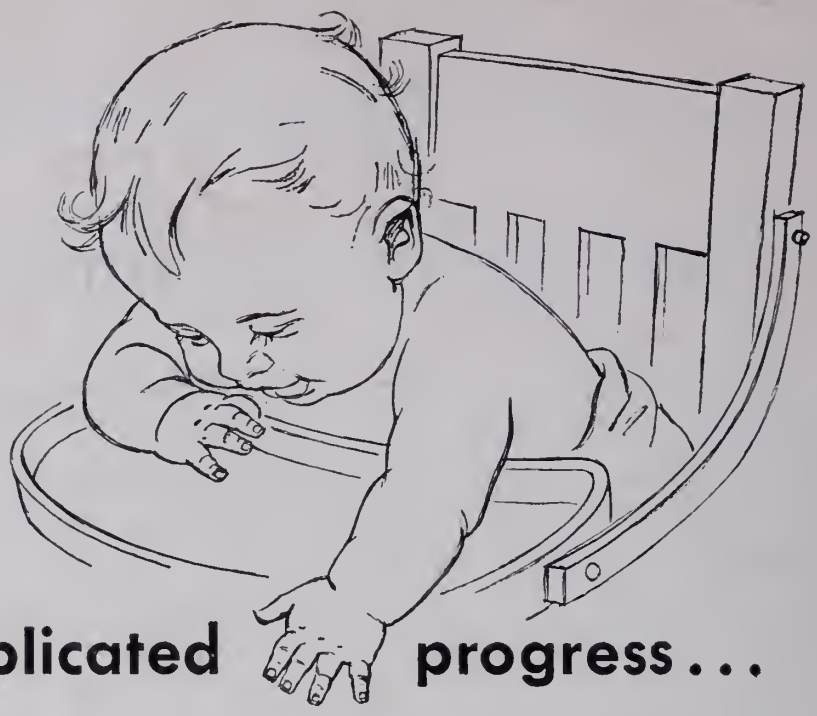

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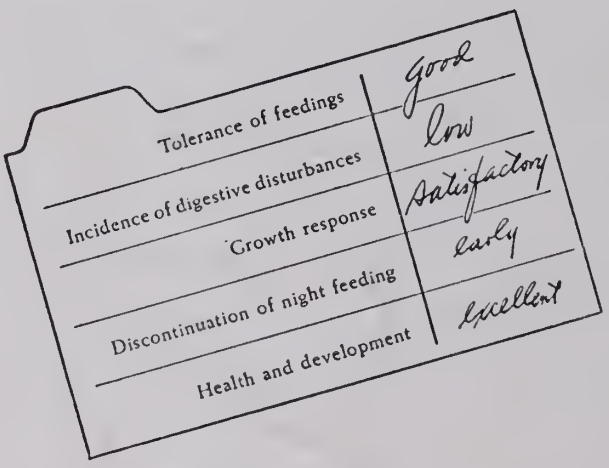

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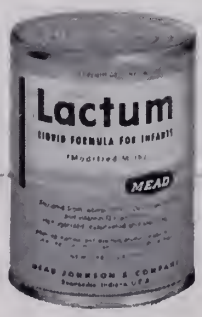
1. Frost, L. H., and Jackson, R. L.: J. Pediat. 39: 585-592, 1951.



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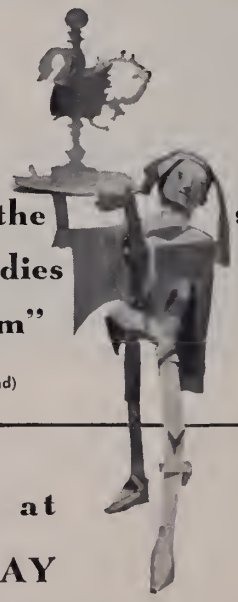

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[1]Evans, R. R., and Rackemann, F. M.: *A.M.A. Arch. Int. Med.* 90:96–127, July 1952.

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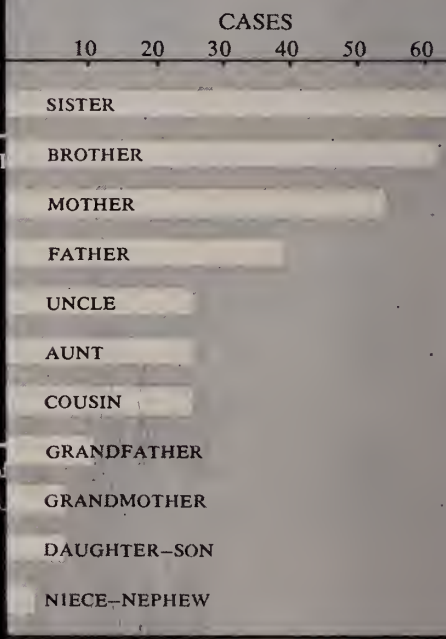

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1. Barach, J. H.: Diabetes and Its Treatment, New York, Oxford University Press, 1949, p. 38.
2. Allen, F. M.: Diabetes Mellitus, in Piersol, G. M., and Bortz, E. L.: Cyclopedia of Medicine, Surgery, Specialties, Philadelphia, F. A. Davis Company, 1951, vol. 4, p. 505.

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1. Von Alyea, O. E., and Donnelly, Allen: *Arch. Otolaryng.*, 49:234, Feb., 1949.

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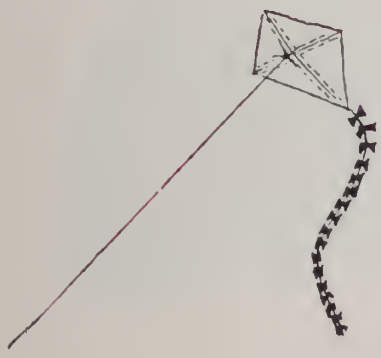

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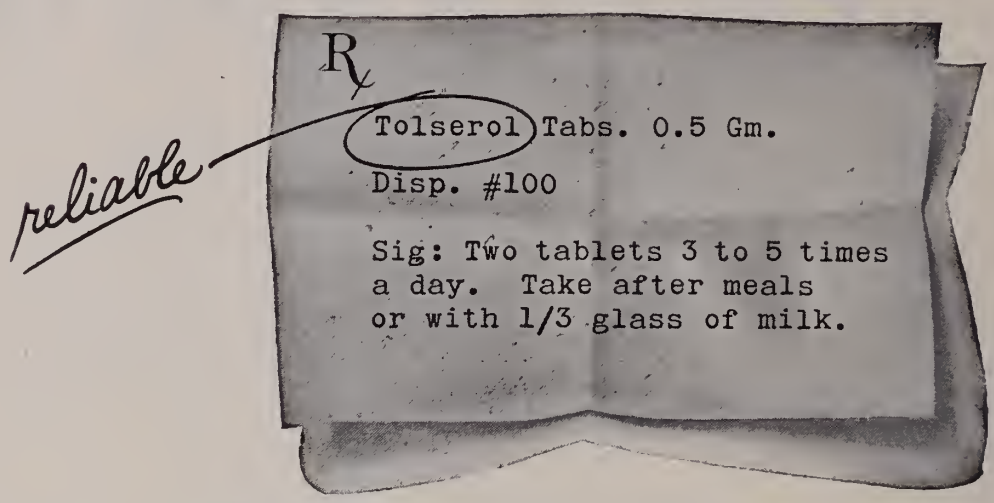

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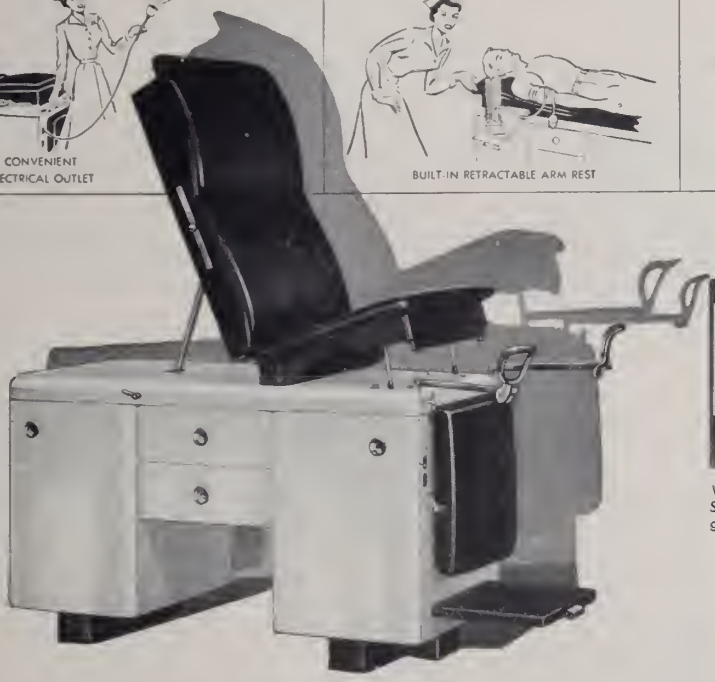

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The Journal

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Vol. 105, No. 12

DECEMBER, 1953

Published Monthly
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GASTROINTESTINAL HEMORRHAGE*

PANEL I. ESOPHAGUS, STOMACH, AND DUODENUM

GORDON McHARDY, M. D.
JOHN E. BECHTOLD, M. D.
and
DONOVAN C. BROWNE, M. D.
New Orleans

This Panel shall be confined to esophageal, gastric, and duodenal bleeding. Panel II, pertaining to small bowel hemorrhage was presented at the Thirty-Fourth Annual Session of the American College of Physicians, Atlantic City, April 17, 1953, as a portion of Panel discussion III, P.47: Bleeding lesions of the gastrointestinal tract.

INCIDENCE AND ETIOLOGY:

The incidence of significant upper gastrointestinal hemorrhage is probably best estimated by an etiologic survey of hospitalized gastrointestinal patients. Bleeding so mild as not to necessitate emergency hospitalization and cases admitted merely for diagnosis are omitted from this discussion. With this concept, we tabulated a twenty year hemorrhage occurrence on two gastrointestinal services at Touro Infirmary. Multiple admissions were studied as a single case, using the last admission for conclusions. There were 303 cases studied, representing 14.2 per cent of the gastrointestinal admissions, 18.6 per cent of the peptic ulcer admissions. In an etiologic breakdown, benign peptic ulcer was the most frequent, 70.9 per cent (or 215 instances), neoplasia represented 13.2 per cent, gastritis 6.2 per cent, and esophageal varices accounted for bleeding in 5.2 per cent. (See Table 1)

It is conceivable that some of the undiagnosed cases may represent small bowel bleeding; however, 4 of these cases had hematemesis and the other 2, in a follow-up beyond two years, have not manifested bowel symptomatology.

Foreign bodies, phlegmonous gastritis, gastric lues, tuberculosis, duodenitis, cardiospasm, allergies, and drug sensitivities were not encountered as bleeding sources. However, if non-thrombocytopenic purpura be considered as of allergic origin, we did have a single such experience.

Our percentage of undiagnosed cases is remarkably low. Crohn[1] has reported on 22 instances of undetermined etiology in a series of 102 bleeding cases. Jankelson and Milner[2] depict the diagnostic difficulties encountered in a series of etiologically vague bleeders. Multiple admissions probably eliminated many diagnostic possibilities and account for the high incidence of duodenal neoplasms.

ESTIMATE OF SEVERITY

All 303 patients manifested bleeding by either hematemesis (massive) or melena (grossly tarry stools). Hematemesis accompanied melena in 101 cases in our series; a third of the patients (33.3 per cent) with severe hemorrhage showed hematemesis. These 101 cases were divided 67 to peptic ulcer (31 per cent of ulcers), 16 to esophageal varices (100 per cent of varices), 13

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*Presented at the Seventy-third annual Meeting of the Louisiana State Medical Society, New Orleans, May 8, 1953.

From the Department of Medicine, Browne-McHardy Clinic and the Gastrointestinal Services of Touro Infirmary, New Orleans.

Aided by a grant from the Medical Group Research Fund.

TABLE 1
TABULATION OF 303 CASES OF UPPER GASTROINTESTINAL BLEEDING

	Diagnosis	Location	No.	Per Cent	Medical Mortality
I.	Peptic Ulcer		215	70.9	5.5
	A. Esophageal				
	1. With hiatus hernia		2		
	2. Without hiatus hernia		4		
	3. Esophagogastric stomal		1		
	B. Gastric		36		
	In herniated portion		8		
	C. Duodenal		144		
	D. Gastrojejunal (Marginal)		20		
II.	Neoplasm		40	13.2	30.5*
	A. Gastric		28		
	1. Benign		1		
	2. Malignant		27		
	B. Duodenal		9		
	1. Benign		2		
	2. Malignant		7		
	C. Esophageal		2		
	D. Adenoma Ampulla of Vater		1		
III.	Esophageal Varices		16	5.2	56†
IV.	Gastritis		19	6.2	0
	A. Acute Erosive		5		
	B. Hypertrophic		8		
	C. Post Gastrectomy		6		
V.	Miscellaneous		7	2.3	28.5‡
	A. Duodenal Diverticulum		3		
	B. Pancreatitis		1		
	C. Gastric Mucosal Prolapse into Duodenum		1		
	D. Blood Dyscrasia		2		
VI.	Undiagnosed		6	2.0	0

*Exsanguination and inoperable but explored cases.
†Hepatic death in 3 cases, exsanguination in 6 cases.
‡Death directly attributable to blood dyscrasia in 1, and pancreatitis in second case.

to gastric neoplasm (approximately 50 per cent of gastric neoplasia), and 4 to the gastritis group. Hematemesis is considered prognostically more serious than melena.[3] (See Table 2)

Melena requires approximately 60 cubic centimeters of blood to be manifest by a tarry stool, and therefore, does not necessarily indicate extensive bleeding. This is substantiated in that only 68 (33.6 per cent) of patients manifesting solely melena displayed clinical shock. However, when hematemesis is concomitant with melena, there is justification to assume severity in that 75.2 per cent were classified as in moderate to severe shock.

It is our opinion that clinical shock or impending shock as indicated by yawning, sighing respirations, rapid thready pulse of poor volume; and drop in blood pressure is an index superior to laboratory evaluation. (See Table 3)

In our case studies the exact status of laboratory procedures cannot be evaluated in that relationship of determinations to blood replacement is not accurately indicated. Ordinarily, a blood picture with red cell count below 3,000,000, hemoglobin below 9 grams, and hematocrit less than 28 depicts severe blood loss.[4] One must not be misled by such factors as early vasoconstriction, splenic release of red cells and the

TABLE 2
ESTIMATE OF SEVERITY OF HEMORRHAGE (A)

	Total Cases		Shock		Bleeding Sources									
					Ulcer		Varices		Gastric Neoplasm		Gastritis		Others	
	No.	%	No.	%										
Melena (alone)	202	66.6	68	33.6	148	69%	0	(0%)	15	(53.6%)	18	(95%)	9	(69.9%)
Hematemesis and Melena	101	33.3	76	75.2	67	31%	16	(100%)	13	(46.4%)	1	(5%)	4	(30.1%)

TABLE 3
ESTIMATE OF SEVERITY OF HEMORRHAGE (B)

Laboratory Procedures:	Blood Picture (RBC)	less than 3,000,000	(Consider early (vasoconstriction,
	Hemoglobin	less than 50% or 9 gm.	(splenic liberation (of RBC, compensa-
	Hematocrit	less than 28	(tory hemodilution.
	Blood volume determinations, the cell: Plasma Relationship: Evans Blue—Radioactive Iodinated human serum albumin.		
Clinical Findings:	Significance of first hemorrhage, age, blood pressure.		
Shock Estimates:	Sacks 75% body tilt for evaluation of blood requirement.		
Physiologic Response:	Significance of vascular response to 500 cc. of blood.		

delayed compensatory hemodilution. Obviously, accurate blood volume studies would be definitive, but the Evans blue method is inaccurate and the radioactive iodinated human serum albumin determination is not generally available. Bromsulfalein liver function may evaluate hepatic status when varices are suspected. Prothrombin determinations are adjunctive. We are not impressed with conclusive significance granted progressive urea nitrogen change (which may be more of an indication of dehydration).

One cannot prognosticate on the basis of initial hemorrhage. Wilkinson and Tracey[5] feel it is not more serious than later episodes; Baker[6] assumes the first bleeding episode the source of most deaths. Age is a contributory factor in that the potential hematologic and physiologic reserves of the patient, coupled with arteriosclerosis, increase the mortality percentage. Hypertension is no longer generally conceded of prognostic significance.[7]

Sacks[8] has suggested tilting the body 75 degrees for three minutes with the following evaluative concepts:

1. If the pulse increases are less than twenty-five a minute there has been negligible blood loss.

2. If the pulse increase is more than thirty a minute, 1000 cc. blood replacement is required.

3. If syncope occurs the blood requirement is 1500 cc.

4. If shock occurs in the supine position, the need is 2000 cc. of blood.

He suggests that, if in shock, 500 cc. of blood raises the blood pressure to 100 systolic and the pulse rate concomitantly drops, that the situation is relatively safe.

In essence, the clinician evaluates the patient in terms of initial finding, response or progressive change and adapts the therapy principles next discussed to the individual case.

MANAGEMENT

It is impractical to be didactic and to anticipate in programmatic routine the management for all bleeding gastrointestinal patients. (See Table 4) Hospitalization is

TABLE 4

THE MANAGEMENT OF MASSIVE ESOPHAGO-GASTRO-DUODENAL HEMORRHAGE

1. Management of Shock and Anoxemia
   - A. Warmth
   - B. Oxygen
   - C. Sedation
   - D. Trendelenburg Position
   - E. Fluid and Blood Replacement
   - F. Control of Esophageal Bleeding
2. Patient Evaluation Within 72 Hours with Surgical Consultation
   - A. History
   - B. Examination
   - C. Laboratory Survey
   - D. Diagnostic Measures
3. Nutrition
   - A. Meulengracht Regimen
   - B. Conservative Feedings
   - C. Dietary Supplements
4. Neutralization of Digestant Pepsin and Hydrochloric Acid
5. Miscellaneous Procedures
   - A. Gelfoam and Buffered Thrombin
   - B. Sedation
   - C. Vitamin Administration
   - D. Intubation and Suction
   - E. Anti-Cholinergics
6. The Election of Sugery: "Hemorrhage Team"
   - A. Within Seventy-Two Hours (Persistent Bleeding)
   - B. Upon Recovery (Hemorrhage Controlled within 72 Hours)
   - C. Recurrent Bleeding after Initial Cessation.

imperative. Obviously, the management of shock takes precedence for one cannot estimate the potentiality of hemorrhage. Therefore, warmth, Trendelenburg position, cautious sedation, oxygen, parenteral fluids, and anticipation of blood replacement have priority over individualization.

Immediately thereafter, case requirements are analyzed. The known ulcer patient with active symptoms presents little problem. Bleeding, however, may be the initial manifestation in peptic ulcer, in neoplasia, and in varices. In a survey of 100 consecutive cases, a significant diagnostic ulcer history was elicited in 62, but was later proven erroneous in 3. Therefore, the bleeding source was not obvious from history in 41 per cent. Physical examination by virtue of a palpable gastric mass in 4 and by evidence of concomitant hepatomegaly and splenomegaly in 3 was informative in only 7 per cent.

Laboratory data indicating a blood dyscrasia was conclusive in only one instance. We did not encounter hypoprothrombinemia. Beyond this the studies were merely evaluative. Blood volumes were not done generally. Urea nitrogen in our opinion and in Crohn's is not evaluated a specific index of extensiveness of bleeding.[4]

Obviously peptic ulcer is the most likely diagnosis in approximately 80 per cent of cases, yet an error may permit procrastination in an ulcerated neoplasm or injudicious handling of a bleeding varix. Should surgery become imperative, knowledge of the ulcer site would be of estimable value. Multiple bleeding lesions are not unusual. Therefore, circumstances permitting, we, in concurrence with others, advocate the Hampton radiologic evaluation, appreciating a minimal risk. In the past 12 consecutive cases, such study has led to a conclusive radiologic diagnosis in all instances without untoward patient reaction. Elmer and his associates[10] so examined 58 cases with definitive findings in 44 cases. Crohn's[4] experience has been extensive and favorable. If the patient is not in shock or has recovered from shock, such examination is justified. We are amused to find that Meulengracht feeding advocates are violently opposed to the ingestion of a watery barium suspension.

Esophageal varices suspected by physical findings and perhaps an abnormal sulphobromphthalein retention may be radiologically demonstrable or tamponade controlled. Bleeding not controlled by the properly positioned Sengstaken tube with blood aspiratable is probably due to a gastric or duodenal lesion. Bedside esophagoscopy is reserved for the extreme emergencies. Sclerosing of varices is inferior to a balloon tamponade. Esophagoscopic sclerosing therapy, however, taught us that endoscopy was permissible during acute bleeding.

Surgical advances mitigate against the so-called conservative approach limiting thought to gastric rest, acid neutralization,

and sedation. The surgeon should be an active consultant in all bleeding cases, anticipating the need for mechanical control in some instances of massive hemorrhage and in all instances of continued of recurrent bleeding.

Tamponade control of esophageal variceal bleeding[11-15] by the triple lumen double Sengstaken tube with adjunctive thrombin permits recovery and thought of subsequent control of portal hypertension by hepatic therapy, preparation for a Blakemore portocaval shunt,[16] Garlock's mediastinal packing,[17] Crile's transesophageal venous ligation, or perhaps hepatic artery ligation. The latter procedure is not surviving well.

Blood replacement, adequate and rapid, restores blood volume, avoids anoxemia, renal and coronary insufficiency and evaluates the status of bleeding. We favor the administration of 1500 cc. of blood within the first twenty-four hours and 500 cc. every twenty-four hours thereafter to maintain a red blood cell count of 4,000,000. If the blood picture cannot be maintained by this quantity of blood, and therefore, continued bleeding exceeds seventy-two hours, surgery is advised unless other considerations exist.[9]

Pollard and Wollum do not concur in this aggressive attitude.[18] They feel liberal immediate transfusion may precipitate recurrent bleeding and a higher mortality. Dunphy and Gray[19] admonish all to differentiate chronic anemia from acute exsanguination. We cannot deny the increase in mortality since the free use of blood. Statistics, however, can depict any desired picture. We concur in demand for specific transfusion indication; no requirement could be more imperative than shock and anoxemia from blood loss, with concomitant cardiac[20] and renal insufficiencies. One anticipates clinical judgement in observance of the amount of sodium citrate and of sodium chloride administered in the course of fluid administration, and the avoidance of precipitating pulmonary edema.

Meulengracht[3, 21] has many advocates. Clinical judgement dictates the decision whether to feed the patient or to achieve gastric rest. In the first seventy-two hours after extensive blood loss the average patient is neither equal nor receptive to the task of ingesting food. Our early experience in an effort to be Meulengracht adherents found us, like Baker,[6] abandoning the effort in over a third of the cases because of recurrent emesis followed by hematemesis. Here again, case individualization dictates. Inanition is hardly important in the initial management of a patient supported parenterally. A reasonable approach is rationalized; begin to feed the patient on the cessation of bleeding, feed carefully with frequent small feedings at body temperature of bland, nonstimulating fluids and semifluids. This is simply accomplished by the ascending Sippy program or a modification thereof. Aminoacids are not impressive nor are they truly palatable. Vitamin supplements are not a part of this early program.

Neutralization of digestant pepsin and hydrochloric acid has been stressed. It seems logical to attempt such neutralization when oral feeding becomes permissable. Selection of rapidly acting absorbable antacids, the satisfactory aluminum hydroxide preparations or magnesium trisilicate is a question of patient tolerance. Some individuals complain of nausea with some preparations. Continuous drip is arduous and unnecessary.

There may be justification for a trial of oral gelfoam and buffered thrombin for topical achievement of hemostasis.[22]

Sedation, achievable parenterally by the simplest nonemetic barbiturates rather than by narcotics is preferable. Relief of apprehension is sought and not a nonresponsive patient, since in the critical period the patient should be watched closely.

Hypoprothrombinemia indicates parenteral vitamin K. The administration of vitamin B complex is justified if a period of anoxemia has potentiated hepatic insufficiency. Beyond these two, dietary supplements are adjunctive to later management.

Intubation and gastric suction are potentially dangerous. The same may be said of

diagnostic gastroscopy which we have advocated in the past. The occurrence of bleeding in patients on anticholinergic therapy, coupled with an experience in 4 consecutive cases in whom bleeding was continuous while on these agents, has led us to feel they are contraindicated. Gastric and duodenal atonicity produced by these agents may prevent muscular contraction which may be an aid to hemostasis.

Although only about 10 per cent of massive bleeding cases will require emergency surgery, the internist has an obligation to think surgically,[23] and is not transgressing on his surgical colleague when he looks for a cooperative surgeon, should his consultant be too conservative. Surgical mortalities should be reasoned only in terms of emergency surgery within seventy-two hours after the onset of bleeding, when bleeding is recurrent after initial control, or as an elective procedure when the patient has recovered from the bleeding episode. Alertness, coupled with ability, is then the answer. In our experience, obviously limited, 12 consecutive cases have been operated during the first seventy-two hours without a mortality. Five recurrent bleeders (during the initial hospital period while under treatment) have been operated within twenty-four hours without a death. Six patients with delayed surgery and continuous bleeding have been operated with 3 deaths. Crohn,[4] in an extensive critical review of the literature, garnered 805 cases operated within forty-eight hours after the onset of bleeding showing a gross average mortality of 10 per cent. He estimates a 25 per cent mortality in delayed surgery. Obviously, even under such critical circumstances, aggressiveness on the part of the internist for surgery is acceptable.

The operative procedure is the surgeon's election.

DISCUSSION

It has been aptly stated that no form of therapy prevents recurrent hemorrhage in approximately 25 per cent of patients.[5] Of 124 patients handled medically, 30 per cent bled again. Subtotal gastric resection for hemorrhage did not prevent a second episode in twenty-four per cent. This information permits one to restress patient individualization. Regardless, our initial desire is to have the patient survive the particular episode under observation. Accurate and early diagnosis, liberal blood replacement, careful nutrition and cooperative "hemorrhage teams,"[4] in our opinion, achieve an optimistic outlook for the bleeding gastrointestinal patient.

Cessation of hemorrhage within seventy-two hours is favorable. Persistent bleeding beyond this period and recurrent bleeding render the prognosis grave and indicate operative intervention.

We call attention to our single case of hemorrhage, assumed due to erosion of gastric mucosa prolapsing into the duodenum, and to similar reported instances.[24-26] It is hoped such critical evaluation[27, 28] may establish the status of this questionable entity, ameliorating enthusiastic surgical endorsement.[29]

In an analysis of the indications for operation in hiatus hernia, Sweet[30] reported blood loss in 19 per cent of 134 cases without indicating the extensiveness of bleeding. Bow and Miller[31] report 4 instances of massive hemorrhage resulting from hiatus hernia. We herewith report 10 cases with massive hemorrhage. In concurrence with Graham's[32] editorial remarks, the danger of ulceration and hemorrhage in the presence of hiatus hernia demands elective surgical repair. That one, however, can become too enthusiastically aggressive is indicated by Palmer,[33] who seemingly elects diagnostic priority to achieve an immediate surgical mortality of 26 per cent.

SUMMARY

It is our impression that a dynamic attitude toward massive upper gastrointestinal hemorrhage requires cooperation of internist, radiologist, and surgeon. Evaluation, early accurate diagnosis, adequate management with preservation of body physiology and indicated surgery are the requisites to more survivals.

REFERENCES

1. Crohn, R. B., Marshak, R. H. and Galinsky, H.: Repeated gastroduodenal hemorrhages without discoverable explanation, Gastroenterology 10:120, 1948.

2. Jankelson, I. R. and Milner, L. R.: Massive upper digestive tract hemorrhage of undetermined origin, J. A. M. A. 145:17, 1951.

3. Pedersen, J.: Lethality rate of hematemesis and melena treated non-operatively (Meulengracht's Regimen) and criteria for surgical intervention in bleeding peptic ulcer, Gastroenterology 12:597, 1949.

4. Crohn, B. B.: Need for aggressive therapy in massive upper gastrointestinal hemorrhage, J. A. M. A. 151:625, 1952.

5. Wilkinson, S. A. and Tracey, M. L.: History of hemorrhage in peptic ulcer, Gastroenterology 7:450, 1946.

6. Baker, C: Bleeding peptic ulcer; Guy's Hosp. Rep. 95:1, 1947.

7. Crohn, B. B., Janowitz, H. D.: Modern treatment of massive hemorrhage of peptic ulcer, Gastroenterology 19:605, 1951.

8. Sacks, A.: Massive gastrointestinal hemorrhage; Nebraska M. J. 36:379, 1951.

9. Aaron, A. H., Lipp, Lipsitz, and Milch.: Treatment of massive gastric hemorrhage due to gastro-duodenal lesions, presented before Gastroenterologic Section, South. Med. Assoc., Dallas, Texas, October 1951.

10. Elmer, R. A., Ronsuck, A., and Ryan, J. M.: Early roentgenologic evaluation in patients with upper gastrointestinal hemorrhage, Gastroenterology 16:552, 1950.

11. Rowntree, Leonard G., Zimmerman, E. F., Todd, M. H., and Ajac, John: Intra-esophageal venous tamponage, its use in a case of variceal hemorrhage from the esophagus, J. A. M. A. 135:630, (Nov. 8) 1947.

12. Barnett, C. B., and Cohen, S.: Management of massive esophageal hemorrhage with tamponade and thrombin, Gastroenterology 13:144, 1949.

13. Sengstaken, R. W. and Blakemore, A. H.: Balloon Tamponage for control of hemorrhage from esophageal varices, Ann. Surg. 131:781, 1950.

14. Patton, T. B., and Johnson, C. G.: Method for control of bleeding from esophageal varices, Arch. Surg. 59:502, 1949.

15. Kenamore, B. and Elliott, G.: Control of esophageal hemorrhage by pneumatic tamponade and thrombin, Gastroenterology 13:73, 1949.

16. Blakemore, A. H.: Preoperative evaluation of liver function in patients with cirrhosis of liver; Surg., Gynec. & Obst. 89:357, 1949.

17. Garlock, J. H. and Som, M. L.: Packing of mediastinum in treatment of hematemesis due to esophageal varices, New York State J. Med. 50:197, 1950.

18. Pollard, H. M. and Wollu, M. A: Role of transfusions in management of gastric hemorrhage, J. A. M. A. 145:22, 1951.

19. Dunphy, J. E. and Gray, S. J.: Management of bleeding gastric and duodenal ulcers, Mod. Med. 20, 1952.

20. Master, A. M., et als: Acute coronary insufficiency —An entity: shock, hemorrhage and pulmonary embolism as factors in its production, J. Mt. Sinai Hosp. 14:8, 1947.

21. Meulengracht, E.: Fifteen years experience with free feeding of patients with bleeding peptic ulcer: Fatal cases, Arch. Int. Med. 80:697, 1947.

22. Daly, B. M., Johnston, C. C., and Penberthy, G. C.: Management of patients with bleeding from upper gastrointestinal tract with buffer and thrombin solutions, Ann. Surg. 129:832, 1949.

23. Warthin, T. A., Warren, R., Wissung, E. G.: Combined medical and surgical management of upper gastrointestinal hemorrhage, New England J. Med. 241:473, 1949.

24. Manning, I. H., and Highsmith, G. P.: Prolapse of gastric mucosa through pyloric canal into duodenum, Gastroenterology 10:643, 1948.

25. Moon, A. E., and Speed, T.: Prolapse of gastric mucosa through pylorus, presentation of case with severe hemorrhage, South. M. J. 42:839, 1949.

26. Bralow, S. P., Becker, G. H., Scheinberg, S., and Necheles, H.: Prolapse of gastric mucosa and its possible relationship with peptic ulcer and upper gastrointestinal hemorrhage, Am. J. Dig. Dis. 17.65, 1950.

27. Lichstein, J. and Asher, L. M.: Benign prolapse of gastric mucosa: clinical roentgenologic, and gastroscopic study, J. A. M. A. 151:720 (Feb. 28) 1953.

28. Rappaport, E. M., Alper, A., and Rappaport, E. O.: Failure of surgery to relieve symptoms in prolapse of the gastric mucosa through the pylorus, Ann. Int. Med. 38:224, 1953.

29. Kaplan, I. W., and Shepard, R. M.: Prolapse of the gastric mucosa into the duodenum, J. A. M. A. 147:554, 1951.

30. Sweet, R. H.: Analysis of one hundred thirty cases of hiatus hernia treated surgically, J. A. M. A. 151:376, 1952.

31. Bow, L. and Miller, C. J.: Massive hematemesis from hiatus hernia, Arch. Surg. 63:143, 1951.

32. Graham, E.: Comments on Esophageal hiatal hernia, Year Book General Surgery, p. 346, 1950.

33. Palmar, E. D.: Acute upper gastrointestinal hemorrhage, Ann. Int. Med. 36:1484, 1952.

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DIAGNOSIS AND TREATMENT OF COMMON LOW BACK DISORDERS*

W. R. HAMSA, M. D.†
OMAHA, NEBRASKA

Low back pain is in all likelihood one of the most frequently encountered symptoms, being rivaled by only one other bizarre symptom, namely headache. Both are legion in their causes and in their interpretations. The controversial explanations of low back pain indicate our medical shortcomings, as every specialty has failed to relieve every patient treated. It is logical to assume that the ordinary exertions of everyday life will produce strain of soft tissues, namely ligaments and muscles rather than complicated bone or nerve lesions; continued logic suggests that accurate diagnosis plus adequate treatment will effect recovery in these common backaches which the family physician encounters. An attempt will be made to present the orthopedic evaluation and treatment of common entities causing, or prone to cause, low back pain.

The development of the human embryo to birth graphically represents man's gradual transition to a biped stance. This transition occurred in the low back and in the hip joints. Requisites for this change were ex-

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†Professor of Orthopedic Surgery, University of Nebraska College of Medicine, Omaha.

tension of the lumbosacral and hip joints, strengthening of back and hip extensor muscles, and a tilt of the pelvis to an angle of forty-five of fifty degrees, known as the angle of inclination. Variation may occur in the extension of low back or hip joints with only one region contributing chiefly; this result in either a flat or in a lordotic back alignment. (Fig. 1)

Figure 1.—Transition from quadruped to biped.

At birth, the child retains the fetal position of flexion of spine and extremities comparable to that of a quadruped. When muscle power is adequate, usually at two months, extension of the cervical spine occurs on raising his head. Similarly when standing occurs, hip extension causes the lumbar lordosis. The final result consists of cervical and lumbar extension positions, with thoracic and sacral flexion.

CLINICAL EVALUATION

Posture may be described theoretically as the relationship of the line of gravity to the center of gravity.[1] For practical clinical purposes, however, it should be considered as that state of balance and alignment that is most efficient for the body, whether at rest or in motion. Optimally, the line of gravity passes upward from a point slightly anterior to the ankle joint, through the center of knee and hip joints, crossing the spine at lumbosacral, dorsolumbar, and cervical-dorsal junctions, and ending at the mastoid process. Physiologically this relationship provides for optimal respiratory exchange and maintains abdominal viscera in place by anterior abdominal muscle tension. It is this anterior abdominal profile that will be kept in mind in the clinical evaluation of posture.

An accurate and detailed history is of extreme importance in the evaluation of a low back pain patient. Onset of symptoms in adolescence suggests congenital low back changes. Weight changes may coincide with onset of discomfort. A record of exact dates of injury and of onset of backache will prove valuable, especially in industrial injuries. General physical examination will usually bring out the possibility of pain referred from other systems such as gastrointestinal, gynecological, and urological. In problem cases, insist on consultation with a specialist in internal medicine or with a specialist in the field suspected as a cause for referred pain.

The orthopedic examination of the low back can only be performed on a patient adequately disrobed. Good visualization of the back and legs is possible only if the patient is wearing a pair of shorts; the addition of a bra for females does not materially obscure vision.

In the standing position note any list to one side in the frontal plane; usually this suggests a short leg, a scoliosis, or pressure neuritis. On lateral view, note posture changes. The round upper back and prominent abdomen are readily discernable. As a general rule a flat abdomen on lateral view suggests good muscular control; for practical purposes, if a line dropped perpendicularly downward from the upper abdomen suggests this to be the most anterior portion of the body, we can assume posture to be within normal limits. Prominence of abdomen at level of, or below, umbilicus indicates a disturbance of the mechanics of the lumbosacral joint; its normal extension has been increased to compensate for this prominence anterior to the line of gravity, a situation often painful in itself and always predisposed to strain and impingement. On the other hand, the absence of any lordosis in lumbar region, the flat back, can be visualized; this back, without curves to absorb shock is prone to ligamentous and muscular strains.

Range of motion is estimated in standing and in sitting positions. On standing erect with knees fully extended, record the degree of flexion by measuring distance between fingertips and floor if unable to bend fully; this motion is decreased in muscular and ligamentous strains. Estimate extension ability; this motion is decreased primarily in nerve or ligament impingements. Side bending causes compression on homolateral

side and tension on contralateral side; right lateral bending will invariably reproduce left sided muscular and ligamentous pain and usually reproduces right sided nerve compression pain. Rotation limitation may be definite, but this pattern is not diagnostically consistent in the low back.

In the sitting position, knee flexion releases hamstring tendons and the sciatic nerve primarily. Increase of spine flexion range in sitting position as compared to standing position suggests a nerve irritation in the lumbosacral level or a disturbance in the sacroiliac joint.

On recumbency, note if the patient allows spontaneous correction of a previously present list; this is a common occurrence in mild nerve compression syndromes. Record leg length, using the distance from the anterior superior iliac spine to internal malleolus. Similarly, record leg and thigh sizes; the presence of atrophy suggests motor weakness incidental to nerve disturbance.

A large variety of leg tests or maneuvers are available to localize the pathology by the indirect application of stresses to the low back. The commonly used tests, however, are as follows:

1. The straight leg raising test—(Goldthwaite or LaSague): In recumbent position, the leg is elevated while knee is kept fully extended and the degree of elevation allowed is recorded. The maneuver increases tension in hamstring tendons and muscles and in the sciatic nerve trunk and roots; hamstring pull on ischium flexes the lumbosacral joint as well. Pain may be reproduced in the lumbosacral joint, in the sciatic notch, or in sciatic nerve distribution on the same or opposite side.

2. The crossed leg test—(LaGuere, Patrick, Faber): In the recumbent position one lower extremity is flexed at the hip and knee, abducted at the hip by placing the ankle across front of opposite knee and backward pressure applied to the knee region. Stresses are delivered to the joints of the sacroiliac and hip of the same side. During this test prevent rotation of the pelvis by a simultaneous backward pressure on the opposite anterior superior iliac spine.

3. The sacroiliac test—(Gaenslen): In the recumbent position the patient resting close to one edge of the examining table, the hip joint is hyperextended by dropping this leg over the edge, simultaneously flexing the opposite hip and knee fully. Shearing stresses are established between the two iliac bones as the hyperextended hip side extends its ilium while flexed hip side flexes its counterpart. With the sacroiliac joints as integral parts of the pelvic ring, weakness, strain, or inflammation in either sacroiliac joint will be aggravated by this test.

4. The anterior thigh contracture test—(Ely): In the prone position one knee is flexed passively noting angle at which pelvis begins to extend on the spine. This maneuver demonstrates shortening or contracture of the anterior hip and thigh muscles, usually of congenital nature. Simultaneously, its extension of lumbosacral joint causes impingement of structures, reproducing lumbosacral pain if pathology is present. On occasion, both low back pain and referred pain may occur.

POINTS OF TENDERNESS

Points of tenderness are present only when pathology is in tissues sufficiently superficial to be compressed by the examining finger. After the patient has relaxed in the prone position, note presence of protective muscle spasm in sacrospinalis groups, then ascertain if tenderness is present over the following landmarks: (Fig. 2)

1. Gluteus maximum origins.—The commonest strain is in this mass and the middle third immediately lateral to the posterior superior iliac spine may be palpated as a tender fibrotic strand.

2. Sacrospinalis origins.—These muscles on active contraction splint the low back guarding against painful movements and prolonged spasm produces strain signs at their origins.

3. Gluteus medius and tensor fascia femoris origins.—Mass splinting of the low back may produce muscle tenderness due to overactivity.

4. Lumbosacral joints.—Due to its position above the sacrum and being mechanically fitted for the three degrees of motion,

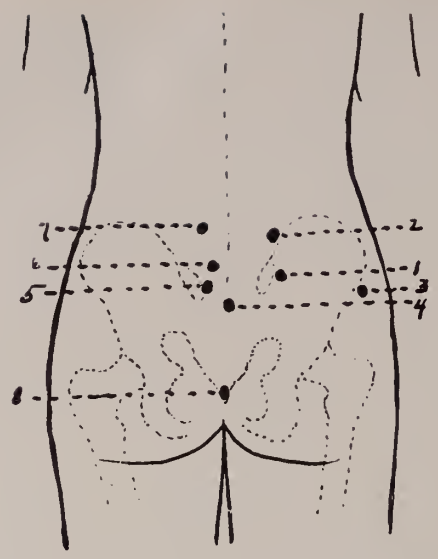

Figure 2.—Low back points of tenderness: (1) gluteus maximus; (2) sacrospinalis; (3) gluteus medius and tensor fascia femoris; (4) lumbosacral joint; (5) sacroiliac joint; (6) iliolumbar angle; (7) sacrospinalis muscle mass; (8) coccyx.

flexion extension, lateral bending, and rotation, this joint receives the major portion of all stresses. Any variation in construction predisposes to strain of its supportive ligaments.

5. The sacroiliac joint:—only the posterior ligaments of these joints are palpable posteriorly. These are located medial to the posterior superior iliac spines and are deep to the lumbodorsal fascia which is also compressed in this test.

6. The iliolumbar angle:—located between the fifth lumbar spinous process and the posterior portion of the iliac crest ending in the posterior superior iliac spine is an angle in which deep pressure may reach the transverse processes of the fifth lumbar vertebra, facets, and nerve roots. The presence of pathology about any of these structures lowers the threshhold of pressure pain.

7. Sacrospinalis muscle mass:—muscle or fascial inflammation due to any cause is invariably associated with pressure pain.

8. The coccyx:—located at the lowest portion of the spine, this structure is particularly prone to injuries; these may be single or repeated.

RECTAL EXAMINATION

Rectal examination is always necessary for orthopedic evaluation. Degenerative changes from trauma to the sacrococcygeal joint can be reproduced by passive motion of coccyx between the examining finger and thumb. Strain of gluetus maximus and of levator ani insertions can be localized. Lastly, the sacrospinous sacrotuberous ligaments, stabilizers of the sacroiliac joints may be palpated in most patients.

NEUROLOGICAL STUDY

The close association of musculoskeletal structures with spinal nerves makes a neurological study necessary. Record activity of knee and ankle reflexes. Test for sensory disturbance. A sharp pin scratch of persistent degree will demonstrate a deficiency in acuity if it is present. Lastly, test the relative muscle power of all foot and knee muscles, making comparison between the two sides.

ROENTGENOLOGICAL STUDY

Immediate roetngenological study is indicated. This includes anteroposterior, lateral, and on occasion, oblique views. A negative result gives assurance of diagnosis of soft tissue strain; conversely, the finding of bone or joint changes indicates their existence before the strain incident, especially important in any medico-legal problem. Degenerative arthritis is very common and may be expected in most individuals over fifty years of age. Common congenital changes include asymmetry of sacrolumbar facets, variations in pelvic inclination, unilateral and bilateral sacralization of fifth lumbar vertebra, pedicle defects, and spina bifida occulta. One may assume that any back with any of these changes is predisposed to strain incidents.

CLINICAL PICTURES

On the basis of the foregoing tests, a number of frequently encountered, well defined clinical pictures are noted. The prominent characteristics of each are as follows:

1. Gluteus maximum muscle strain:
   a. decreased spine flexion erect
   b. occasionally positive straight leg raising test
   c. tenderness lateral to posterior superior iliac spine

2. Sacrospinalis muscle strain:
   a. decreased spine flexion, erect or sitting
   b. Positive straight leg raising test
   c. Tenderness upper edge of iliac crest
3. Gluteus medius and tensor fascia femoris strain:
   a. shuns spine extension erect
   b. positive local pain on Ely test
   c. tenderness above or anterior to greater trochanter
4. Lumbosacral joint strain:
   a. decreased spine flexion and extension, erect or sitting
   b. positive straight leg raising bilaterally
   c. sacrospinalis muscle spasm occasionally
   d. tenderness over lumbosacral joint
5. Lumbosacral joint strain with instability:

(Potential herniated disc syndrome)
   a. marked decrease in all spine motion
   b. malposture (flexion of trunk)
   c. list to one side erect, occasionally also when recumbent
   d. pain reproduced by Ely test
6. Traumatic coccygodynia:
   a. pain reproduced on standing up from sitting position, by prolonged sitting, and during bowel movements
   b. occasionally positive straight leg raising
   c. tenderness over coccyx posteriorly and anteriorly
   d. passive coccygeal motion pain

TREATMENT

Many back strains in patients seen in office practice are of moderate severity, and following full evaluation, a therapeutic routine can usually be started without need for complete bedrest. Logical steps in this routine follow.

1. Pain Relief.—Opiates in some form are usually necessary; a combination of codeine and empirin compound adds salicylate action. Tolserol in 0.5 gram doses q.i.d. relaxes muscle spasm.

2. Physical Therapy.—Tenderness localized to muscle origin or insertion may be interpreted as a strain complex. Compression massage to such an area momentarily reproduces pain and is followed by relief. Lacking a technician, the physician may administer this treatment in a few moments. Treatments may be given daily or every two days; less frequent treatment fails to produce any cumulative effect. Diathermy heating offers relief from pain; it is used to best advantage before massage.

3. One or 2 per cent novocain injection.—Two cc. of solution placed into a muscular origin or into a ligament strain affords relief primarily and serves as a diagnostic test secondarily. More prolonged action can be obtained by using eucupin in oil in selected cases.

4. Decreased Activity.—The patient's tolerance should govern the amount of activity allowed. Pure muscular strains recover more rapidly if allowed active action plus half hour periods of rest in recumbency.

5. Support.—Adhesive plaster strapping affords quick and fairly efficient support. The addition of a commercial abdominal and low back belt decreases the strain of malposture or of the obese abdomen. Its circular constriction effects some low back stability. The lordotic or sway back is correctable to some degree and its strain definitely relieved by a three point pressure posture brace; this is made on individual order only, as good fitting is necessary for efficient action.

6. Equalization of leg length: A heel lift on the low side is used in differences under one-half inch. Greater discrepancy calls for adequate heel lift plus slightly less sole elevation in region of anterior arch, but tapered to zero at the anterior end.

7. Posture Exercises: A patient with malposture characterized by prominent abdomen, flat chest, and round, upper back, suffering additional low back strain cannot institute immediate corrective measures. However, as soon as pain is reasonably controlled, active exercise of anterior trunk and abdomen are indicated. In recumbent position on any surface, with knees and hips bent to relax iliopsoas muscle, the head and

shoulders are raised ten times, increasing by one lift daily to total of twenty-five. Posterior shoulder muscle groups respond to swimming routine, especially if the breast stroke is used. Make the patient aware of standing as tall as possible, holding the abdomen flat. Too many exercises or instructions are confusing.

8. Dietary supervision: Any excess weight is located primarily about abdomen and hips. Weight reduction will decrease the "postural drag" on the low back as well as decrease the total weight carried. Dietary deficiencies as well as avitaminosis, should be corrected if muscles and ligaments are to reach optimal states for recovery.

9. Mattress Specification: The ideal mattress supports the body in any position while maintaining relatively normal alignment. It must be firm; it must fit the patient's height and weight. The ordinary mattress may be made quite efficient by the insertion of boards on top of the bed springs. The addition of a small pillow behind the knees in recumbency adds comfort by allowing the lumbar spine to flatten moderately.

10. Chair Specification: The ideal chair has a primary lumbar support, a minimum of 105 degrees angle between trunk and thigh, a maximum seat length and seat height of sixteen inches, a few degrees of seat tilt backward to maintain proper position against the lumbar support, and has free space below the seat for placement of the feet beneath the seat in rising.[2] Usually the patient learns rapidly which type of chair is tolerated best.

A smaller group of patients suffer pain of such degree that home or office care is inadequate. This type differs only in degree; the basic muscular strain is associated with ligamentous change as well. Localization of the latter is almost invariably in the lumbosacral region; the older concept that the sacroiliac joint was the worst offender is now quite well corrected. The steps outlined for the office treatment of milder strains are continued with some steps selected for more emphasis.

Severe lumbosacral pain suggests severe strain to ligaments of this joint. Any stretch or lengthening of those ligaments holding the intervertebral disc within its normal boundaries will be followed by local edema and pain. Bulging under the normally pent-up hydraulic pressure within the disc, and further emphasized by the secondary edema, the possibility of nerve root pressure against the posterior wall of the spinal canal is readily visualized. This pathological picture is not a "herniated disc" syndrome; it merely threatens to become this entity. Early recognition of this clinical picture, particularly if seen during the first attack, may reverse the process to a degree sufficient to relieve pain and effect healing. Absolute bed rest is therefore indicated.

The regular hospital bed with head and knee elevators and with boards under the mattress serves adequately. An overhead frame is added to provide a base for a hand hold and for traction attachments. The patient is placed in recumbency with spine, hips, and knees semiflexed by raising head and knee elevators eight to ten inches. Traction of eight pounds is applied to each leg through adhesive plaster straps. Supportive slings under thighs and calves may be used to counter-balance the weight of the legs; this is known as balanced traction. Avoid traction of the legs in full extension as this position does not relax the lumbar lordosis and may increase the patient's discomfort, especially the radiating pain; should this occur, a disc protrusion must be suspected and definitive surgical treatment contemplated. Improvement, however, usually follows; within one to two days pain may be decreased sufficiently to allow the patient to turn on his side with bed flat and traction released. Low back diathermy and muscle massage may be added, followed by other previously outlined steps.

The decision as to the patient's ability to sit up must be made with care as too early stresses will repeat the strain process. A fair test of ligament healing is evidenced by the patient's ability to raise his buttocks for bed pan use; this exertion calls for sacrospinalis and gluteal active contraction

while lumbosacral lordosis is momentarily increased. A successful step of this nature suggests the addition of a corset or brace and gradual change to sitting position, followed shortly by protected walking if progress continues. Any recurrence of slight pain indicates a return to a prior phase of activity. With continued improvement, a restricted activity program should be continued for six to twelve weeks. Failure to obtain a serviceable comfortable back after six months conservative trial places the problem in the laminectomy or fusion group.

Coccygodynia, or painful coccyx, is a symptom rather than a disease entity. Located at the lowermost point of the spinal column, the coccyx is particularly exposed to injury; its joints are subject to the same disturbances as other parts of the body. A slumping, sitting posture causes direct pressure upon the coccyx; a fall backward striking the buttocks transmits similar forces. A temporary change to an extended position is necessary during childbirth. These repeated traumata are prone to cause a degenerative arthritis of the sacrococcygeal joint.[3]

Low back pain due to "coccygodynia" is assumed to be present when the findings are localized only by the coccyx; the lumbosacral region must be normal. Treatment is aimed at removing pressure in this area and stopping coccygeal motion until its muscular and ligamentous attachments and its joints have time to heal. Upright sitting, carrying weight on posterior thighs, in an upright chair relieves most cases. Constipation must be avoided or relieved. Hot Sitz baths may give relief. Digital massage of the levator ani muscles by rectal approach has been helpful. Posture training and gluteal exercises decrease the possibility of careless sitting habits and secondary traumata. Under this routine most pain syndromes in the coccygeal region gradually become quiescent in two to three months time. Recurrences, however, are common, particularly if old posture habits are acquired. Coccygectomy in selected cases only is indicated.

Pain in the anatomical location of the sacroiliac joint has all too often been considered due to a sprain or minor displacement. Structurally, this joint is extremely stable with powerful ligaments anteriorly and posteriorly and further reinforcement in the sacrospinous and sacrotuberous ligaments; true sprains or displacements of this joint are therefore rare. The probable cause of pain in this region is strain and instability of lumbosacral joint, with referred pain laterally. For definite diagnosis of sacroiliac joint strain, sprain, displacement or irritation, findings must include positive responses by reproduction of pain with the Faber crossed-leg test, Gaenslen's test, straight-leg raising test of Goldthwait, plus tenderness to pressure over posterior sacroiliac ligaments and rectally over sacrotuberous ligaments. Sacroiliac joint change is also characterized by improved spine flexion in sitting position compared to range in standing position. Pathology in sacroiliac joint causing pain is much more apt to be inflammatory rather than traumatic.

CONCLUSION

The transition from the quadruped to the biped stance has produced an inherent weakness in the low back. This weakness is normally well controlled by adequate muscle and ligament support. Mild traumata, however, often cause strain changes in these structures. Healing of these tissues may be expected if protection is adequate and prolonged, provided predisposing factors such as malposture, obesity, and congenital changes are also considered. Surgical intervention in those patients who failed to respond to conservative treatment bears promise of satisfactory results.

REFERENCES

1. Steindler, A.: Diseases and Deformities of the Spine and Thorax, C. V. Mosby Co., St. Louis, Missouri, 1929, p. 88.

2. Keegan, J. Jay: Alterations of the lumbar curve related to posture and seating, J. Bone & Joint Surg., 35-A, No. 3, 589 603, July, 1953.

3. Howorth, M. B.: Textbook of Orthopedics, W. B. Saunders Co., Philadelphia, 1952, p. 238.

DIAGNOSIS IN LOW BACK DISORDERS*

G. C. BATTALORA, M. D.
O. L. POLLINGUE, M. D.
NEW ORLEANS

Low back pain can be caused by intrinsic and extrinsic factors. Among the extrinsic causes are pelvic disorders, systemic infections, and psychogenic factors. A decision has to be made early in the examination to decide if the condition is of local or remote etiology. In the great majority of cases this can be done by recognizing the fact that cases of low back pain due to local factors have accentuation of the pain on certain postural changes. Postural changes have very little influence on the pain when it is produced by extrinsic factors.

CAUSES

Only the more common orthopedic causes can be considered at this writing. These may be divided into postural, traumatic intervertebral disc lesions, and malignancy.

Every patient with poor posture does not necessarily have low back pain. There is some added factor which upsets the equilibrium at the lumbosacral joint level to produce the pain. Examples of this would be congenital defects, such as simple laminar defects, tropism, sacralization, spondylolisthesis and development defects such as wedging of the fifth lumbar vertebra and disc with increase of the lumbosacral angle. In later life this results in localized osteoarthritic changes at the lumbosacral facets. Disc lesions are considered by some as the main cause of low back pain. There can be no question that frank herniations do produce low back pain with or without radiation. The question which only time can answer is whether simple disc degeneration causes low back pain.

Malignancy is one of the least common causes of low back pain but must always be considered.

POSTURE

The patient, who complains of low back pain, and who has poor posture, can have the pain accentuated by putting him through motions that accentuate the postural defect. These patients have little or no pain on flexion of the spine but do have pain on extension, with the pain referred to the lumbosacral junction. Postural disorders are most common in the female during the fourth and fifth decades. There is a history of low back pain, nonradiating in character, of months or years duration. It is relieved by bed rest and is accentuated by long periods of standing or ambulation. It frequently follows abdominal surgery. This abdominal surgery may have been done to relieve the low back condition. Inactivity incidental to the surgery causes increased abdominal relaxation and this predisposes to lumbosacral decompensation.

Physical findings are usually at the minimum and these may be noted on inspection. There is an accentuation of the anterior posterior curves of the spine. There is usually a full range of motion with pain on hyperextension. The abdominal musculature is relaxed. X-rays may be normal or may show one of the previously described congenital defects. They usually show an increased lumbosacral angle.

TRAUMA

Traumatic cases are usually the result of strain as in lifting with some rotatory element added. The pain as a rule is referred to the level of the lumbosacral junction. Motion is limited in all directions in the acute case. Localized tenderness is present in the region of the fifth lumbar spine. Muscle spasm is constant. X-rays may show one of the aforementioned changes or may be normal. In cases of direct trauma, a fracture may be noted. Facet fractures require x-rays of excellent quality in various planes. In the cases of acute lumbosacral strain who have poor posture, the painful phase is sometimes prolonged by the postural defect. Psychic factors are also aggravating stimuli in perpetuating the complaints. If the x-ray shows considerable

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hypertrophic changes the problem of whether the arthrosis has been aggravated arises. If motion of the spine is within normal limits it is very probable that aggravation does not exist.

TYPICAL SYMPTOMS AND SIGNS

The subject of diagnosis in intervertebral disc lesions is too extensive to be considered in such a short time. A typical case usually presents recurrent low back pain and later sciatica. The pain is usually relieved by bed rest with the hips and knees flexed. Examination reveals an ipsolateral or a contralateral list. Erector spinae spasm is noted. The lumbar lordosis is diminished or reversed. Flexion of the spine is limited and if extension plus lateral bending is limited to the side of the sciatica it usually indicates a laterally placed disc herniation. If it is limited to the opposite side, the herniation is considered to be more centrally located. Straight leg raising is limited on the side of the sciatic pain. If the sciatica is produced by raising the opposite leg it indicates a very large disc hernation which extends to the midline. The ankle jerk may be absent, diminished, or be normal. Where it is affected, it usually indicates a lesion at the fifth lumbar disc. Tenderness may be a localizing sign. Hypesthesia is almost invariably present if searched for. The power in the great toe extensor may be weakened. Ordinary x-rays may be normal or may show thinning of the fifth interspace. In doubtful cases a pantopaque visualization should be done.

If a patient complains of aggravation of the low back pain or sciatica on recumbency, one should be on guard against a tumor. Common tumors of this region are chondromas, fibromas, lipomas, hemangiomas, secondary carcinoma and intradural tumors. A typical case presents low back pain with or without a history of trauma. The findings may be those of a herniated disc syndrome or of an acute lumbosacral strain. The most significant point is that the pain is usually worse at night and is not relieved by recumbency.

In the foregoing presentation an attempt has been made to rationalize diagnosis in low back disorders. In actual practice it may not be as simple as presented, although if carefully studied most cases can be fairly accurately classified.

THE DIFFERENTIAL DIAGNOSIS OF OSTEOID OSTEOMA*

MARY SHERMAN, M. D.†
NEW ORLEANS

It has been eighteen years since Jaffe called attention to a certain bone lesion which he named osteoid osteoma. During those years enough cases have been reported so that the clinical and pathologic features have been clearly established although the etiology is still a mystery. Osteoid osteoma is common, dramatic in its manifestations and so easy to cure that the diagnosis is important. It is not difficult to suspect clinically and the microscopic picture is so characteristic that there should be no room for doubt. Yet errors do occur.

INCIDENCE

Osteoid osteoma typically occurs in young people. It appears most often in the second decade of life but it has been identified in an infant of 18 months and in a woman of 54 years. For unknown reasons it is more than twice as common in males as in females. It has been seen in practically all bones of the body except those of the skull and face but there are sites of definite predilection. Well over half the reported lesions have been in the lower extremity, most commonly in the tibia and the femur. The small bones of the feet, particularly the astragalus, are the next most frequently involved. Only one-fifth of the lesions occurred in the upper extremity, with the majority in the humerus and the small bones of the hand. About one-tenth appeared in the spine, where the usual site is the lamina just adjacent to the pedicle. The remainder were scattered in the ribs and pelvis.

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†From the Departments of Orthopedics, Ochsner Clinic and Tulane University, School of Medicine, New Orleans.

CLINICAL MANIFESTATIONS

Osteoid osteoma is always a single process which never attains a size much greater than one centimeter in diameter. Its manifestations are entirely local and the presence of systemic changes practically rules out the diagnosis. The presenting complaint is usually pain. At first the discomfort is mild and intermittent, but it gradually becomes more severe and more constant. Pain is accentuated by exercise and is typically worse at night when it prevents the patient from sleeping. As it becomes more severe, it also becomes more localized. The site of involvement is easily identified because the area is exquisitely tender and so sharply localized that it can often be covered by a finger tip.

Confusion sometimes arises because of the reactive phenomena excited by an osteoid osteoma. As in other disorders, pain is sometimes referred to distant sites. This is particularly true with involvement about the hip joint, which often causes pain in the knee. When osteoid osteoma is near a joint (or actually within it as may be the case when the femoral neck is affected) there is a secondary reaction in the joint. The synovial membrane becomes acutely inflamed, there is an accumulation of fibrin-flecked fluid, and the picture may resemble a primary arthritic process. All these manifestations subside as soon as the osteoid nidus is removed, and the condition of the joint returns to normal. If the bone focus is not removed promptly, so that inflammation persists for a long time, the joint may become permanently damaged so that hypertrophic arthritis develops.

ROENTGENOGRAPHY

The fully developed osteoid osteoma presents a characteristic roentgenographic picture. There is a small round or oval area of decreased density which corresponds to the active nidus. If there is ossification at the center, a tiny dense shadow may be seen within the nidus. Usually the thick dense shadow of sclerotic regional bone surrounds it. The amount of bony reaction varies with the location of the nidus. It is least in superficial lesions and those in cancellous bone. When the nidus is at or in the cortex, the amount of new bone formed may be so extensive and dense as almost to obscure the nidus.

TREATMENT

Osteoid osteoma is one of the most satisfying disorders to treat. Surgical removal of the nidus results in such prompt and dramatic relief from pain that the patients do not even complain of postoperative discomfort. If the nidus is completely removed, it will not recur. It is neither necessary nor desirable to remove the reactive bone. In young patients this bone undergoes complete reorganization and resorption; in older patients it may persist, but it causes no trouble.

HISTOLOGY

The microscopic picture is unmistakable. There is a loose background of vascular fibrous tissue containing variable numbers of multinucleated cells. In this background arises an irregular mass of patternless osteoid trabeculae. In the more mature portions of the nidus, some of the trabeculae will have progressed to immature bone. In the reactive bone about the nidus the marrow spaces are filled with fibrous tissue which may or may not exhibit a few elements of chronic inflammation.

REPORT OF CASES

The following cases are presented to illustrate some of the commoner errors which one can hope to avoid.

Case No. 1: A man, 34 years old, had had vague aching in the left knee and thigh for four months. He had been taking 100 gr. of aspirin daily as well as other drugs. Physical examination revealed nothing abnormal but the roentgenogram showed a small area of increased density in the lower femur (Fig. 1). This had the typical appearance of a bone island but in spite of this, and the lack of characteristic history and physical findings, a diagnosis of osteoid osteoma was made and bloc excision carried out. Not only was the pain unaffected, but three weeks after operation the patient sustained a pathologic fracture through the operative site. First a cast and then an external splint were employed. Three months after operation, when the patient was still taking large quantities of aspirin, the correct diagnosis of psychoneurosis was made. Microscopic section of the "lesion" revealed only local condensation of normal cortical bone (Fig. 2).

Fig. 1: (Case 1)—Roentgenogram shows small regular area of increased density in anterior portion lower femur. Note lack of regional reaction. This is the characteristic appearance of a bone island.

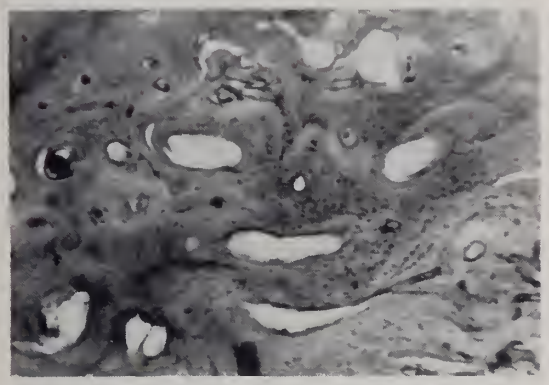

Fig. 2: (Case 1)—Photomicrograph (X 40) shows perfectly normal mature dense bone continuous with the normal cortex above.

Case No. 2: A 15-year-old boy had complained for one year of pain and swelling of the left ankle. Both symptoms were aggravated by activity. Physical examination revealed nonpitting swelling of the ankle, restricted motion, and tenderness to pressure just lateral to the midline at the joint. The patient's mother, father and brother had active pulmonary tuberculosis to which the boy had had prolonged exposure. The result of Mantoux test, however, was negative and the patient had no systemic manifestations of tuberculosis. The roentgenogram showed an oval area of decreased density wtih a denser center in the neck of the astragalus (Fig. 3). This was interpreted as a tuberculous sequestrum although the joint itself seemed well preserved The ankle was immobilized in plaster, which diminished but did not abate the pain, and streptomycin was given for three months. Twenty-one months after onset of symptoms, the boy was readmitted to the hospital with complaints and physical findings unchanged. The roentgenogram (Fig. 4) showed the joint still to be unaffected and

Fig. 3 (Case 2)—Initial roentgenogram shows no changes in the ankle. There is an oval area of decreased density in the neck of the astragalus.

Fig. 4: (Case 2)—Roentgenogram made five months later shows clearly defined oval lesion, with a dense center, a "collar" of reduced density, and sclerosis of the regional bone.

the "sequestrum" not much larger but more evident. This time the correct diagnosis was suspected and operation performed. The synovial membrane was inflamed and articular fluid increased in amount. An "irregular granular area" was removed from the neck of the astragalus. Culture and guinea pig inoculation produced no growth. The patient's symptoms were at once relieved. Microscopic examination showed the typical osteoid masses in a vascular fibrous background (Fig. 5).

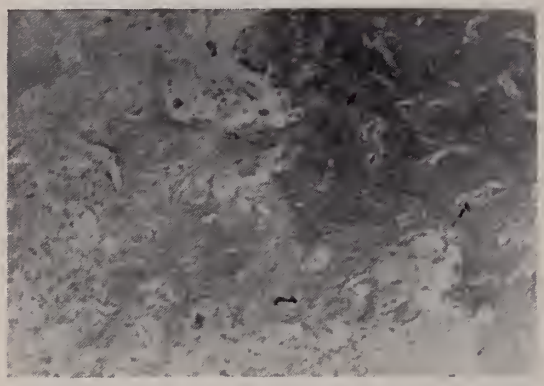

Fig. 5: (Case 2)—Photomicrograph (X 80) showing on the left the vascular fibrous tissue background with irregular masses of osteoid and on the right the bony center.

Case No. 3: A 19-year-old woman was seen because of a lump which had been present above and behind the left ear for three or four years. She was not sure whether it had increased in size. It had recently become slightly tender and vague parietal headaches developed. The roentgenogram showed a defect in the temporoparietal region with little radiating spicules of new bone (Fig. 6). Excision and repair with a tantalum plate effected a cure. The microscopic diagnosis of osteoid osteoma was made, apparently because of the large amount of new bone. However, examination showed the center of the lesion to be composed of large irregular blood spaces (Fig. 7). It was a cavernous hemangioma, a process which characteristically excites a great amount of reactive bone.

Case No. 4:* A 12-year-old girl had had pain in the low back for several months. It had gradually become severe enough to interfere with sleep. Fixed scoliosis appeared, and soon muscle spasm and acutely localized tenderness just to the right of the second lumbar spinous process became evident. When pain in the right lower extremity, weakness and a limp developed, it was realized that something more than idiopathic scoliosis was present. One and one-half years after the initial symptoms, an oblique roentgenogram revealed a large defect

Fig. 6: (Case 3)—Roentgenogram shows defect in right temporoparietal region with the fuzzy shadow of new bone at upper margin.

Fig. 7: (Case 3)—Photomicrograph (X 80) shows many large blood spaces surrounded by an irregular lacework of new bone and sheets of macrophages.

in the right lamina of the second lumbar spinous process (Fig. 8), excision of which relieved both the pain and scoliosis. Microscopic examination showed a perfectly typical, active, relatively immature osteoid osteoma (Fig. 9).

Case No. 5: A 43-year-old physician had vague pain and tenderness over the left tenth rib for five weeks. When a hard mass appeared at the site, he became alarmed. This mass was fixed to the rib, fusiform in shape, and nontender. The roentgeno-

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*This case has been previously reported (Sherman, Mary S. and Caldwell, Guy: Osteoid osteoma. In press).

Fig. 8: (Case 4)—Roentgenogram demonstrates enlarged and thickened lamina of second lumbar vertebra with radiolucent area in center.

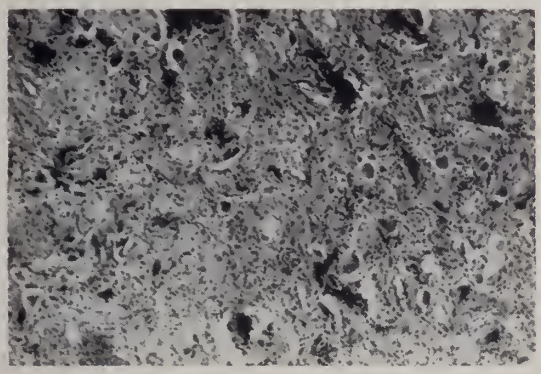

Fig. 9: (Case 4)—Photomicrograph (X 80) shows classical osteoid osteoma. Note extremely vascular fibrous stroma which contains numerous multinucleated cells. In this stroma is a network of osteoid trabeculae which in a few places have calcified to become bone.

gram showed a large smooth expansion which was decreased in density (Fig. 10). There was no shadow of reactive bone. This segment of rib was removed and the patient made an uneventful recovery. The diagnosis of osteoid osteoma was made, although nothing in the history, roentgenogram, or microscopic section suggested it. Microscopic examination showed a uniform background of fairly dense mature fibrous tissue in which slender, irregular trabeculae of immature bone arose. The rib was the site of a solitary focus of fibrous dysplasia (Fig. 11).

Fig. 10: (Case 5)—Roentgenogram (print is reversed) shows diffuse expansion of tenth rib which is decreased in density. Trabeculation is sparse but present throughout.

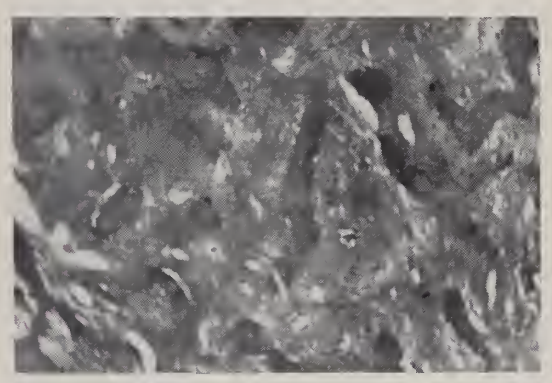

Fig. 11: (Case 5)—Photomicrograph (X 80) shows fairly mature inactive fibrous tissue in which are slender irregular trabeculae of immature new bone.

DISCUSSION

The differential diagnosis of osteoid osteoma is really simple. The errors revealed by the cases reported stem from failure to think of the diagnosis and lack of familiarity with the clinical and pathologic features of osteoid osteoma. Almost the only lesion

with which the clinical and roentgenographic picture can be confused is an indolent bone abscess but the microscopic picture is so characteristic and so constant that even this distinction offers no real difficulty.

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PITFALLS IN THE POSTREDUCTION MANAGEMENT OF FRACTURES*

NICK J. ACCARDO, M. D.
NEW ORLEANS

The subject of this paper concerns itself with those fractures treated by closed reduction methods. Often a fracture that has been properly manipulated with excellent reduction concludes with a poor functional result because of some failure in the postreduction management. This paper deals with such failures.

INADEQUATE IMMOBILIZATION

Inadequate immobilization accounts for the greatest percentage of nonunions that are found in fractures. In these times, when much pressure is being brought to bear on the doctor to return the patient to his livelihood, the question is frequently asked, even before the cast has been applied, when shall it be removed. The doctor should realize that there is only one honest answer and that is when there is x-ray evidence that the bones have united. This will take weeks and may even take months. It behooves the doctor to inform the patient at the very onset of treatment of this reality.

Immobilization has frequently been used improperly by men who certainly should know better but who, nevertheless, commit the following error. They begin their management of a fracture with one type of cast and then resort to a less formidable type of cast. For some unknown reason, the extent of the immobilization is decreased long before union has taken place. If it is sound practice to immobilize a particular fracture with a long leg plaster of Paris cast at the time of the original fracture, it is illogical, unwise, and dangerous to change to a less formidable fixation until such time as the bone fragments have completely united. All fractures, with the possible exception of fractures of the shaft of the humerus, should be immobilized by including the joints proximal and distal to the fracture site.

STABLE POSITION

A fracture that has been properly manipulated with excellent reduction obtained will redisplace unless it is immobilized in a stable position. There is only one position of stability for each fracture. Time and space do not permit a complete discussion of each and every fracture but, as a matter of example, the Colles' fracture is cited. There is only one position of stability for this fracture after it has been reduced—this position is with the wrist flexed moderately and in ulna deviation. Not to maintain this position is to cater to a redisplacement of the fragments. To exaggerate this position, as the Cotton-Loder position does, will produce swelling and venous stasis in elderly people and marked dysfunction of the hand and fingers.

On the other hand, if the position of stability of a fracture is one that places the limb in a completely unfunctional position, then it is better to do an open reduction to avoid this. An outstanding example demonstrating this problem is a fracture of the olecranon that has to be held in a reduced position by completely extending the elbow. The disability of a stiff elbow in complete extension is great.

CASTS

There are frequent errors in plaster of Paris technique that may account for an undesired result. The plaster of Paris may be put on with irregular pressure causing ridges to be formed in the cast. This source of pressure will result in soft tissue damage of varying consequence. Frequently, without being aware of it, either the assistant or the surgeon applying the plaster will produce finger grooves in the cast. This results in discomforting pressure points

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and can be a source of great concern in the popliteal area. A common mistake is to apply casts which are too heavy. This will result in distraction of the bone fragments, a frequent cause of nonunion, and, in the instance of the lower extremity, will discourage ambulation. Another error of plaster of Paris technique is to attempt to move the patient too soon after the cast has been applied, before the cast sets. This causes the cast to break, requiring reapplication. A popular practice is to window a cast for frequent examination of the skin. If it is necessary that the skin be examined, it is preferable to bivalve the cast. The objection to putting a window in a cast is that it will produce localized edema and will aggravate the soft tissue damage that already exists there. Wedging of casts is a common practice today and, in the hands of a diligent, watchful operator, is good practice. It, however, can be a very dangerous procedure, as it may be the cause of pressure sores, compounding of fractures and nerve injuries. If a cast is to be wedged, the operator has an obligation to observe the patient closely for any complaints. It is improper for him to wedge a cast and to dismiss the patient from his sight not to return for weeks.

Care must be taken in applying a short leg cast with a walking attachment not to permit the attachment to extend too far below the sole of the foot. This will increase the limb length of the injured side excessively and cause the patient considerable trouble in balancing himself and in walking properly. A simple way to remedy this is to elevate the heel of the normal limb.

All casts should be trimmed properly after they are applied. No jagged, unpadded edges should be permitted to irritate the skin and produce pressure sores. A cast of the upper extremity should extend distally to the proximal palmar crease on the anterior surface of the hand to allow a full range of motion of the metacarpo-phalangeal joints and on the dorsum of the hand, it should extend distally to the end of the metacarpal heads when the metacarpo-phalangeal joints are fully flexed. To end the cast proximal to this level will produce venous engorgement and swelling of the hand and fingers.

Sometimes a patient will complain of pain after a cast has been applied. If the patient's complaints are not relieved by rearranging the pillows that support the cast, one should never resort to opiates to relieve this pain. Pain is a warning that all is not proper within the cast and to give an opiate is to disguise the true picture. Unfortunately, the pain originally complained of, if caused by pressure from the cast, may change to a numbness that will be misleading. It is only later that one learns of his error when the cast is removed and a large necrotic pressure sore with sloughing is unveiled. If any doubt exists at all that everything is not as it should be under the cast, always remove it and inspect the limb thoroughly.

Recently, I had an opportunity to observe a complication that occurred in the postreduction management of a fracture, simple, of the midshaft of the clavicle. As all of you know, there are a score or more of ways to treat this fracture—none of them are very efficient. The surgeon in this case chose to immobilize the fracture with a cotton batting figure of "8," over which was applied an Ace bandage. The patient was not seen for forty-eight hours and had developed a marked venous engorgement of both upper limbs. The reason was obvious — the figure "8" dressing was too tight about the axillae.

Improper padding of casts has resulted in many heartaches in the treatment of fractures. It is my opinion that there is no place in orthopedics for a skin tight cast in acute fracture work. The danger of vascular embarrassment is imminent and one should use proper padding to help in the absorption of the swelling that is bound to occur. One has only to realize that it is preferable to get a malunion or even a nonunion of any fracture of the upper extremity as a result of a loosely applied cast than to have the patient develop a Volkman's

ischemic contraction, a condition that defies all efforts at correction. To improperly pad a cast will result in pressure sores at the site of boney prominences. This serves as a very discomforting complication to the patient and a very embarrassing one to the physician, all of which is avoidable by simply using a little felt padding at these sites. Occasionally, however, an excessive amount of padding may result in too much play between the extremity and the cast, causing angulation of the bone fragments and, sometimes, displacement and overriding.

Improper choice of fixation and inadequate follow-up after the reduction of the fracture have been causes of illgotten results. Frequently, properly fitting casts for fractures of the forearm will become inadequate after a week of immobilization due to the atrophy of the soft tissues. If this cast is not changed and this condition remedied, the position of the bone fragments might very well change to an unsatisfactory one. It is my feeling that the ideal type of fixation of these types of fractures is the use of the sugar tong splint, which is essentially a well molded anterior and posterior layer of plaster held together by a roll of gauze bandage. This will permit the surgeon simply to cut the bandage between the two layers to release the tension if the swelling is too great and will, also, permit him to approximate the layers of plaster when atrophy of soft tissues occurs. Therefore, without jeopardizing the position of the bone fragments, constant pressure is maintained as well as maintenance of the reduction. It is my belief that women, particularly those who are obese, do not lend themselves to immobilization in plaster of Paris body casts for fractures of the spine. What is obviously a snug fitting, satisfactory cast today will be a loose fitting, inadequate cast tomorrow. I prefer to prescribe a wide brassiere and some type of corset fixation and then to attach the particular type of brace felt necessary for the given fracture to the corset.

PHYSICAL THERAPY

Failure of the physician to insist that his patients conduct a satisfactory regime of physical therapy while being treated for a fracture accounts for the many discouraging results that have been obtained. From the very first time the patient is seen he should be instructed on exercising those joints of the involved extremity that are not included in the immobilization. It is the obligation of the doctor to check to make certain that the patient is exercising. Often a patient who has suffered a fracture of the forearm will end up with a frozen shoulder or stiff fingers simply because the doctor failed in his responsibility concerning this matter. Most laymen have an erroneous opinion that *all joints* of the involved extremity should not be moved and unless they are instructed to exercise the joints not immobilized they will not do so. After the removal of the cast, it is important that the patient be given physical therapy in its various forms, such as, diathermy, warm baths, whirlpool baths, massages, dependent drainage and passive support in the form of Ace bandages or elastic stockings. To assume a patient is well and has a useful limb after there is x-ray evidence of boney union and to ignore the necessary follow-up as mentioned above is, in my opinion, to render a gross disservice to the patient.

LEG LENGTH AND WEIGHT BEARING INTERRELATIONS*

GEORGE NELSON RONSTROM, M. D.†
NEW ORLEANS

INTRODUCTION

The low back pain problem is ever with us. General practitioners of the last hundred years were plagued by it as are specialists of more recent years. It is disheartening to have to categorize a patient as a chronic backache. It is still more discouraging to know that encouragement is about all that can truthfully be prescribed. What may seem valiant attempts at treatment to one of us may seem confused activity to an-

*From the Department of Anatomy of the Louisiana State University School of Medicine.
†Associate Professor of Anatomy, Louisiana State University School of Medicine, New Orleans.

other. Treatment is not infrequently a failure. Feelings of hopelessness and distrust disturb both physician and patient.

Bipedal progression creates a lordotic curve in the small of the back. The convexity points anteriorly and concavity posteriorly. The weakest point of a curve is at the apex of its convexity. So here then, in the small of the back, is created an exceedingly vulnerable area. From the beginning of development the lumbosacral joint is relatively weak. It is easily susceptible to deviations in its vicinity. Such deviations over a period of time can cause changes in structure and pain. Just what the individual's normal curve *is* is hard to define. It loses clear cut meaning after one sees various degrees of lordotic curvature, some with and some without pain. Normalcy here seems precariously balancing against stress and strain. Lumbar intervertebral joints, the lumbosacral joint itself and right and left sacro-iliac joints are all located here. All are part of or closely related to this precariously normal low back region. What happens in the way of deformity and pain depends on stress and strain, over a period of time, put upon the region.

Posture, locomotion, upper trunk support, etc. are important mechanisms normally exerting force on the lower back. What factors make and keep or pervert the normal forces supporting these three and possibly more such mechanisms? The forces and the mechanisms are most likely one and the same factor acting on the curve. How normal force mechanisms might be converted into stress and strain producing mechanisms stimulated this investigation. Consequent later structural changes and pain were thought of as results of perverted normal force mechanisms over a period of time but not studied.

For this study posture was chosen as a common cause of chronic lumbosacral strain In years of youth and strength, posture is relatively good. In middle age, with beginning atrophy, posture is often bad. Increased lordosis, ovoid abdomen and compensatory dorsal kyphosis appear. Postural modifications of normal supportive forces of adolescence are usually asymptomatic. In middle age with its slumping and tired posture we forget caution and lift something overly heavy. Then the accumulated and changed forces suddenly revolt with pain. From then on the back becomes chronically symptomatic. The most common cause of low back pain is very likely lumbosacral stress and strain on a postural basis. Its etiology is mechanical, consisting of perverted normal forces over the younger years with the straw that broke the camel's back as some incautious episode. The complexity of the region, the multiplicity of causes of pain must be faced. Causative factors in every case should be investigated.

METHODS OF STUDY

This study concerns itself with a mechanism common to all of us, namely, posture. It takes the viewpoint that deviations of posture over a course of time can become strain producing to the low back region. Three avenues of approach were used: (1) leg length relations; (2) right and left leg weight bearing relations; and (3) correlated interrelations of numbers one and two gave pertinent information.

Leg length relations: Sixty-seven medical students, 54 males and 13 females, were measured for leg length from anterior superior iliac spines to medial maleoli. Measurements were taken on supine subjects with metrically graduated steel rod and the aid of an assistant. Three sets of measurements were made and an average taken. The students made three daily visits and were measured the same way each time. Table 1 shows the figures.

Leg weight bearing relations: The same 67 subjects were used and weighings made on each of the three aforementioned visits as follows: (1) the total body weight was recorded in round numbers; and (2) the divided body weights on right and left extremities were taken down. To get such divided body weight a pair of automatically recording weight scales were placed against one another. It was done so that the subject could comfortably stand with a foot on each. This permitted the left scale to sepa-

TABLE 1

No.	Case	Age	Sex	Height	Average length of left extremity from 3 measurements at each of 3 visits	Average length of right extremity from 3 measurements at each of 3 visits	Difference between lengths of right and left extremities	Longer extremity
				cms.	cms.	cms.	cms.	
1.	M.T.	21	M	175	85.4	86.3	.9	Right
2.	A.V.	25	M	169	85.7	86.2	.5	Right
3.	A.T.	25	M	170	88.5	87.9	.6	Left
4.	N.T.	20	M	182	90.4	91.0	.6	Right
5.	L.S.	22	M	175	90.6	90.1	.5	Left
6.	G.S.	24	M	181	94.1	93.9	.2	Left
7.	M.S.	20	M	176	93.7	93.2	.5	Left
8.	W.S.	25	M	178	91.2	90.0	1.2	Left
9.	R.S.	29	M	177	90.8	89.7	1.1	Left
10.	J.S.	27	M	175	91.6	92.4	.8	Right
11.	R.S.	24	M	174	90.3	90.3	.0	Same
12.	M.R.	28	M	186	98.4	100.2	1.8	Right
13.	M.S.	19	M	168	86.0	87.3	1.3	Right
14.	L.G.	32	F	166	84.3	85.2	.9	Right
15.	M.B.	23	F	159	81.2	80.6	.6	Left
16.	A.B.	22	F	157	83.2	82.6	.6	Left
17.	J.P.	22	F	166	87.0	86.5	.5	Left
18.	K.B.	18	M.	163	84.5	84.5	.0	Same
19.	M.M.	27	M	163	82.6	83.1	.5	Right
20.	M.G.	26	M	188	100.4	98.9	1.5	Left
21.	B.M.	20	M	180	90.8	91.5	.7	Right
22.	G.C.	22	M	165	86.3	85.6	.7	Left
23.	R.M.	30	M	174	87.3	88.5	1.2	Right
24.	H.L.	21	M	97.9	98.3	98.3	.4	Right
25.	J.B.	27	M	172	88.4	87.6	.8	Left
26.	J.H.	25	M	200	99.6	99.2	.4	Left
27.	R.C.	22	M	168	87.0	87.1	.1	Right
28.	M.K.	25	M	168	81.4	81.2	.2	Left
29.	R.D.	27	M	176	89.1	88.8	.3	Left
30.	P.B.	26	M	174	88.8	89.3	.5	Right
31.	F.B.	27	M	167	85.5	86.5	1.0	Right
32.	L.B.	23	M	182	93.1	92.6	.5	Left
33.	J.F.	28	M	184	97.5	96.4	1.1	Left
34.	C.G.	19	M	183	98.2	98.1	.1	Left
35.	M.J.	32	F	170	84.7	84.4	.3	Left
36.	R.H.	20	M	167	88.3	87.7	.6	Left
37.	J.D.	25	M	161	80.9	82.2	1.3	Right
38.	J.M.	30	M	172	88.0	87.3	.7	Left
39.	B.P.	19	F	172	88.3	87.5	.8	Left
40.	N.P.	20	F	151	77.6	78.2	.6	Right
41.	M.S.	21	F	169	84.1	82.4	1.7	Left
42.	M.L.	20	M	171	84.1	85.5	1.4	Right
43.	R.M.	22	M	175	90.1	89.4	.7	Left
44.	R.E.	20	M	187	102.4	101.5	.9	Left
45.	M.T.	23	F	166	83.2	82.3	.9	Left
46.	M.M.	21	F	158	80.8	80.4	.4	Left
47.	M.H.	25	M	166	83.1	84.2	1.1	Right
48.	J.H.	23	M	174	88.3	89.1	.8	Right
49.	J.H.	26	M	179	92.0	90.6	1.4	Left
50.	R.H.	24	M	176	92.3	91.1	1.2	Left
51.	J.J.	27	M	173	89.1	86.4	2.7	Left
52.	H.J.	26	M	180	94.8	93.8	1.0	Left
53.	F.I.	18	M	170	87.2	86.6	.6	Left
54.	P.D.	24	M	172	88.3	87.5	.8	Left
55.	R.B.	26	M	177	86.8	86.2	.6	Left
56.	F.B.	26	M	192	105.5	106.1	.6	Right
57.	R.B.	25	M	184	98.9	99.7	.8	Right
58.	T.R.	23	M	167	86.7	88.0	1.3	Right
59.	L.P.	33	M	171	84.6	84.8	.2	Right
60.	M.D.	24	F	168	89.3	89.2	.1	Left
61.	M.C.	25	F	169	86.7	86.3	.4	Left
62.	J.K.	30	M	179	90.5	92.6	2.1	Right
63.	R.L.	25	M	183	95.2	94.2	1.0	Left
64.	P.J.	19	M	180	93.5	94.5	1.0	Right
65.	A.C.	24	M	182	94.6	94.2	.4	Left
66.	H.C.	26	M	178	92.3	93.3	1.0	Right
67.	N.C.	23	F	163	84.1	83.3	.8	Left

rately record the amount of weight bearing on the left foot and extremity and likewise for the right scale and right foot. The distance between the medial malleoli was kept at 12 centimeters until a pair of weights was made for each of the 67 subjects. Then the posture on the scale was changed to one with 30 centimeters of distance between medial malleoli. A series of divided leg weight bearing values were recorded. To complete the experiment another set of values was taken with a 45 centimeter spread between medial malleoli. Table 2 shows the figures.

Relations and interrelations of leg length and weight bearing: Twenty-nine of 54 males had longer left legs and 25 had longer right legs. Eleven of 13 females had longer left legs and 2 had longer right legs.

Thirty-one males stood with more weight on the left foot in all three positions taken on adjacent scales. Twenty-three males stood with more weight on the right foot in comparable positions. Seven females stood with more weight on the right foot while 6 stood with more weight on the left.

Twenty-eight of the total group of 67 students stood with both greater weight and length on the same side. Nineteen of these were left side and 9 right side. Thirty-seven subjects stood with greater weight and length on opposite sides. Two individuals had the same length in both legs. One of the 2 stood with greater weight on the left side and the other on the right side.

DISCUSSION

The problem started out to show posture change as a possible cause of low back strain. That is, posture from standpoint of leg length was first considered. Standing posture is supported on two lower extremities by way of the small of the back. Therefore, if marked difference in leg lengths was present in a subject his posture would tend to lean toward one side or other. He would more probably be marked out for future low back trouble. It would depend on how much compensation his body built up to stress and strain of the lean, over a period of years. However, in the 67 measurings for right and left leg length difference, only 2 people had the supposedly dangerous inch of shortening. Nineteen subjects had roughly one-half inch shortening. The remaining 46 individuals had, practically speaking, negligible shortening. Their very slight leg length differences most probably would not be a ready cause of strain. Table 1 shows the amount of difference in length between extremities for each subject.

As the problem progressed, weight bearing with its distribution on right and left extremities came to be more and more considered and finally measured as possible cause of stress and strain to the low back. The recording of weight data was set down in Table 2. Let us check subject number one on this Table 2. On first visit with feet 12 cm. apart on two adjacent scales, he distributed a total body weight of 166 lbs., 73 lbs. on left foot and 93 lbs. on right foot, a 20 lb. weight difference between the two feet, the greater weight being on the right foot. On Table 1 patient number one has a right extremity of 0.9 cms. longer than the left extremity. It seems clear to say, then, that the standing posture of subject number one with feet 12 cms. apart is 20 pounds heavier on the right foot with a right extremity 0.9 cms. longer than the left. On same first visit with feet 30 cms. apart subject number one distributed total weight 166 lbs., 80 lbs. on left foot and 86 lbs. on right. In this position there is 6 lbs. greater weight on right foot, the 0.9 cms. difference in length the same. Lastly, on the first visit the feet were spread 45 cms. apart on two scales. Subject number one distributed 166 lbs. total weight 81 lbs. on left foot and 85 lbs. on right foot. Here the greater weight of 4 lbs. is on the right foot. The 0.9 cms. longer right extremity factor is the same. To complete subject number one's posture weight variations, visits numbers two and three must be checked through Table 2 towards the right in the same manner. The distributed weight amounts vary in three postures and are fairly constant throughout three visits. It appears that weight preponderance remains right sided in subject number one. His weight distribution varied from 20 to 4 pounds as the

feet were moved from near to farther apart relaxed positions on adjacent scales. Two factors emerged: the variability of the difference in the three positions on the scales revealed itself; secondly, the weight difference, although variable in amount, remained on the same side in all three positions on three visits. In checking through Table 2 it will be seen that these two factors show up.

TABLE 2

		Feet 12 cms apart on two scales			Feet 30 cms. apart on two scales			Feet 45 cms. apart on two scales				
No.	Visit	Wgt. on left foot	Wgt. on Right foot	Visit	Wgt. on left foot	Wgt. on Right foot	Visit	Wgt. on left foot	Wgt. on Right foot	Body weight	Greater weight on	Sex
1.	1.	73 lbs.—	93 lbs.	1.	80 lbs.—	86 lbs.	1.	81 lbs.—	85 lbs.	166 lbs.	Right	M
	2.	76 lbs.—	90 lbs.	2.	80 lbs.—	86 lbs.	2.	78 lbs.—	88 lbs.		foot	
	3.	76 lbs.—	90 lbs.	3.	75 lbs.—	91 lbs.	3.	78 lbs.—	88 lbs.			
2.	1.	73 lbs.—	85 lbs.	1.	73 lbs.—	85 lbs.	1.	75 lbs.—	83 lbs.	158 lbs.	Right	M
	2.	71 lbs.—	87 lbs.	2.	73 lbs.—	85 lbs.	2.	73 lbs.—	85 lbs.		foot	
	3.	70 lbs.—	88 lbs.	3.	71 lbs.—	87 lbs.	3.	69 lbs.—	89 lbs.			
3.	1.	70 lbs.—	72 lbs.	1.	70 lbs.—	72 lbs.	1.	70 lbs.—	72 lbs.	142 lbs.	Right	M
	2.	70 lbs.—	72 lbs.	2.	69 lbs.—	73 lbs.	2.	71 lbs.—	71 lbs.		foot	
	3.	70 lbs.—	72 lbs.	3.	70 lbs.—	72 lbs.	3.	69 lbs.—	73 lbs.			
4.	1.	70 lbs.—	78 lbs.	1.	70 lbs.—	78 lbs.	1.	73 lbs.—	75 lbs.	148 lbs.	Right	M
	2.	72 lbs.—	76 lbs.	2.	72 lbs.—	76 lbs.	2.	71 lbs.—	77 lbs.		foot	
	3.	73 lbs.—	75 lbs.	3.	71 lbs.—	77 lbs.	3.	70 lbs.—	78 lbs.			
5.	1.	79 lbs.—	76 lbs.	1.	78 lbs.—	77 lbs.	1.	80 lbs.—	75 lbs.	155 lbs.	Left	M
	2.	85 lbs.—	70 lbs.	2.	83 lbs.—	72 lbs.	2.	80 lbs.—	75 lbs.		foot	
	3.	83 lbs.—	72 lbs.	3.	83 lbs.—	72 lbs.	3.	85 lbs.—	70 lbs.			
6.	1.	79 lbs.—	84 lbs.	1.	75 lbs.—	88 lbs.	1.	76 lbs.—	87 lbs.	163 lbs.	Right	M
	2.	76 lbs.—	87 lbs.	2.	78 lbs.—	85 lbs.	2.	76 lbs.—	87 lbs.		foot	
	3.	75 lbs.—	88 lbs.	3.	76 lbs.—	87 lbs.	3.	79 lbs.—	84 lbs.			
7.	1.	68 lbs.—	61 lbs.	1.	67 lbs.—	62 lbs.	1.	66 lbs.—	63 lbs.	129 lbs.	Left	M
	2.	70 lbs.—	59 lbs.	2.	70 lbs.—	59 lbs.	2.	66 lbs.—	63 lbs.		foot	
	3.	67 lbs.—	62 lbs.	3.	66 lbs.—	63 lbs.	3.	66 lbs.—	63 lbs.			
8.	1.	70 lbs.—	67 lbs.	1.	70 lbs.—	67 lbs.	1.	71 lbs.—	66 lbs.	137 lbs.	Left	M
	2.	70 lbs.—	67 lbs.	2.	70 lbs.—	67 lbs.	2.	72 lbs.—	65 lbs.		foot	
	3.	71 lbs.—	66 lbs.	3.	73 lbs.—	64 lbs.	3.	73 lbs.—	64 lbs.			
9.	1.	102 lbs.—	91 lbs.	1.	110 lbs.—	83 lbs.	1.	106 lbs.—	87 lbs.	193 lbs.	Left	M
	2.	100 lbs.—	93 lbs.	2.	100 lbs.—	93 lbs.	2.	104 lbs.—	89 lbs.		foot	
	3.	102 lbs.—	91 lbs.	3.	106 lbs.—	87 lbs.	3.	106 lbs.—	87 lbs.			
10.	1.	93 lbs.—	96 lbs.	1.	90 lbs.—	99 lbs.	1.	90 lbs.—	99 lbs.	189 lbs.	Right	M
	2.	93 lbs.—	96 lbs.	2.	90 lbs.—	99 lbs.	2.	89 lbs.—	100 lbs.		foot	
	3.	91 lbs.—	98 lbs.	3.	91 lbs.—	98 lbs.	3.	89 lbs.—	100 lbs.			
11.	1.	65 lbs.—	61 lbs.	1.	64 lbs.—	62 lbs.	1.	66 lbs.—	60 lbs.	126 lbs.	Left	M
	2.	66 lbs.—	60 lbs.	2.	65 lbs.—	61 lbs.	2.	66 lbs.—	60 lbs.		foot	
	3.	65 lbs.—	61 lbs.	3.	64 lbs.—	62 lbs.	3.	66 lbs.—	60 lbs.			
12.	1.	84 lbs.—	88 lbs.	1.	85 lbs.—	87 lbs.	1.	83 lbs.—	89 lbs.	172 lbs.	Right	M
	2.	81 lbs.—	91 lbs.	2.	84 lbs.—	88 lbs.	2.	82 lbs.—	90 lbs.		foot	
	3.	82 lbs.—	90 lbs.	3.	82 lbs.—	90 lbs.	3.	81 lbs.—	91 lbs.			
13.	1.	69 lbs.—	61 lbs.	1.	72 lbs.—	58 lbs.	1.	69 lbs.—	61 lbs.	130 lbs.	Left	M
	2.	70 lbs.—	60 lbs.	2.	72 lbs.—	58 lbs.	2.	69 lbs.—	61 lbs.		foot	
	3.	72 lbs.—	58 lbs.	3.	72 lbs.—	58 lbs.	3.	69 lbs.—	61 lbs.			
14.	1.	69 lbs.—	64 lbs.	1.	70 lbs.—	63 lbs.	1.	73 lbs.—	60 lbs.	133 lbs.	Left	M
	2.	72 lbs.—	61 lbs.	2.	70 lbs.—	63 lbs.	2.	73 lbs.—	60 lbs.		foot	
	3.	70 lbs.—	63 lbs.	3.	70 lbs.—	63 lbs.	3.	73 lbs.—	60 lbs.			
15.	1.	65 lbs.—	56 lbs.	1.	68 lbs.—	53 lbs.	1.	65 lbs.—	56 lbs.	121 lbs.	Left	F
	2.	63 lbs.—	58 lbs.	2.	68 lbs.—	53 lbs.	2.	66 lbs.—	55 lbs.		foot	
	3.	62 lbs.—	59 lbs.	3.	65 lbs.—	56 lbs.	3.	66 lbs.—	55 lbs.			
16	1.	41 lbs.—	50 lbs.	1.	43 lbs.—	48 lbs.	1.	44 lbs.—	47 lbs.	91 lbs.	Right	F
	2.	41 lbs.—	50 lbs.	2.	43 lbs.—	48 lbs.	2.	44 lbs.—	47 lbs.		foot	
	3.	39 lbs.—	52 lbs.	3.	41 lbs.—	50 lbs.	3.	38 lbs.—	53 lbs.			
17.	1.	55 lbs.—	58 lbs.	1.	56 lbs.—	57 lbs.	1.	55 lbs.—	58 lbs.	113 lbs.	Right	F
	2.	55 lbs.—	58 lbs.	2.	55 lbs.—	58 lbs.	2.	56 lbs.—	57 lbs.		foot	
	3.	56 lbs.—	57 lbs.	3.	55 lbs.—	58 lbs.	3.	55 lbs.—	58 lbs.			
18.	1.	66 lbs.—	67 lbs.	1.	65 lbs.—	68 lbs.	1.	65 lbs.—	68 lbs.	133 lbs.	Right	M
	2.	66 lbs.—	67 lbs.	2.	65 lbs.—	68 lbs.	2.	65 lbs.—	68 lbs.		foot	
	3.	65 lbs.—	68 lbs.	3.	64 lbs.—	69 lbs.	3.	62 lbs.—	71 lbs.			
19.	1.	94 lbs.—	85 lbs.	1.	92 lbs.—	87 lbs.	1.	90 lbs.—	89 lbs.	179 lbs.	Left	M
	2.	92 lbs.—	87 lbs.	2.	92 lbs.—	87 lbs.	2.	90 lbs.—	89 lbs.		foot	
	3.	95 lbs.—	84 lbs.	3.	95 lbs.—	84 lbs.	3.	92 lbs.—	87 lbs.			
20.	1.	80 lbs.—	75 lbs.	1.	81 lbs.—	74 lbs.	1.	81 lbs.—	74 lbs.	155 lbs.	Left	M
	2.	81 lbs.—	74 lbs.	2.	82 lbs.—	73 lbs.	2.	85 lbs.—	70 lbs.		foot	
	3.	84 lbs.—	71 lbs.	3.	85 lbs.—	70 lbs.	3.	85 lbs.—	70 lbs.			
21.	1.	83 lbs.—	75 lbs.	1	81 lbs.—	77 lbs.	1.	80 lbs.—	78 lbs.	158 lbs.	Left	M

No.	Visit	Feet 12 cms. apart on two scales: Wgt. on left foot	Wgt. on right foot	Visit	Feet 30 cms. apart on two scales: Wgt. on left foot	Wgt. on right foot	Visit	Feet 45 cms. apart on two scales: Wgt. on left foot	Wgt. on right foot	Body weight	Greater weight on	Sex
	2.	85 lbs.	73 lbs.	2.	83. lbs.	75 lbs.	2.	80 lbs.	78 lbs.		foot	
	3.	83 lbs.	75 lbs.	3	83 lbs.	75 lbs.	3.	85 lbs.	73 lbs.			
22.	1.	59 lbs.	70 lbs.	1.	60 lbs.	69 lbs.	1.	62 lbs.	67 lbs.	129 lbs.	Right	M
	2.	60 lbs.	69 lbs.	2.	59 lbs.	70 lbs.	2.	61 lbs.	68 lbs.		foot	
	3.	58 lbs.	71 lbs.	3.	61 lbs.	68 lbs.	3.	62 lbs.	67 lbs.			
23.	1.	86 lbs.	80 lbs.	1.	85 lbs.	81 lbs.	1.	81 lbs.	82 lbs.	166 lbs.	Left	M
	2.	86 lbs.	80 lbs.	2.	84 lbs.	82 lbs.	2.	84 lbs.	82 lbs.		foot	
	3.	84 lbs.	82 lbs.	3.	84 lbs.	82 lbs.	3.	86 lbs.	80 lbs.			
24.	1.	95 lbs.	82 lbs.	1.	92 lbs.	85 lbs.	1.	94 lbs.	83 lbs.	177 lbs.	Left	M
	2.	91 lbs.	83 lbs.	2.	91 lbs.	86 lbs.	2.	95 lbs.	82 lbs.		foot	
	3.	95 lbs.	82 lbs.	3.	91 lbs.	86 lbs.	3.	94 lbs.	83 lbs.			
25.	1.	76 lbs.	72 lbs.	1.	77 lbs.	71 lbs.	1.	76 lbs.	72 lbs.	148 lbs.	Left	M
	2.	75 lbs.	73 lbs.	2.	78 lbs.	70 lbs.	2.	78 lbs.	70 lbs.		foot	
	3.	78 lbs.	70 lbs.	3.	78 lbs.	70 lbs.	3.	76 lbs.	72 lbs.			
26.	1.	94 lbs.	106 lbs.	1.	92 lbs.	108 lbs.	1.	96 lbs.	104 lbs.	200 lbs.	Right	M
	2.	90 lbs.	110 lbs.	2.	92 lbs.	108 lbs.	2.	95 lbs.	105 lbs.		foot	
	3.	95 lbs.	105 lbs.	3.	96 lbs.	104 lbs.	3.	92 lbs.	108 lbs.			
27.	1.	78 lbs.	71 lbs	1.	79 lbs.	73 lbs.	1.	78 lbs.	74 lbs.	152 lbs.	Left	M
	2.	81 lbs.	71 lbs.	2.	82 lbs.	70 lbs.	2.	81 lbs.	71 lbs.		foot	
	3.	78 lbs.	74 lbs.	3.	81 lbs.	71 lbs.	3.	79 lbs.	73 lbs.			
28.	1.	60 lbs.	75 lbs.	1.	62 lbs.	73 lbs.	1.	61 lbs.	74 lbs.	135 lbs.	Right	M
	2	60 lbs.	75 lbs.	2.	65 lbs.	70 lbs.	2.	61 lbs.	74 lbs.		foot	
	3.	62 lbs.	73 lbs.	3.	62 lbs.	73 lbs.	3.	60 lbs.	75 lbs.			
29.	1.	101 lbs.	90 lbs.	1.	98 lbs.	93 lbs.	1.	98 lbs.	93 lbs.	191 lbs.	Left	M
	2.	103 lbs.	88 lbs.	2.	97 lbs.	94 lbs.	2.	97 lbs.	94 lbs.		foot	
	3.	100 lbs.	91 lbs.	3	100 lbs.	91 lbs.	3.	103 lbs.	88 lbs.			
30.	1.	74 lbs.	61 lbs.	1.	72 lbs.	63 lbs.	1.	70 lbs.	65 lbs.	135 lbs.	Left	M
	2.	72 lbs.	63 lbs.	2.	72 lbs.	63 lbs.	2.	74 lbs.	61 lbs.		foot	
	3.	74 lbs.	61 lbs.	3.	70 lbs.	65 lbs.	3.	70 lbs.	65 lbs.			
31.	1.	75 lbs.	70 lbs.	1.	75 lbs.	70 lbs.	1.	74 lbs.	71 lbs.	145 lbs.	Left	M
	2.	71 lbs.	71 lbs.	2.	76 lbs.	69 lbs.	2.	75 lbs.	70 lbs.		foot	
	3.	74 lbs.	71 lbs.	3.	74 lbs.	71 lbs.	3.	76 lbs.	69 lbs.			
32.	1.	89 lbs.	86 lbs.	1	90 lbs.	85 lbs.	1.	90 lbs.	85 lbs.	175 lbs.	Left	M
	2.	90 lbs.	85 lbs.	2.	89 lbs.	86 lbs.	2.	89 lbs.	86 lbs.		foot	
	3.	90 lbs.	85 lbs.	3.	88 lbs.	87 lbs.	3.	90 lbs.	85 lbs.			
33.	1.	92 lbs.	80 lbs.	1.	87 lbs.	85 lbs.	1.	89 lbs.	83 lbs.	172 lbs.	Left	M
	2.	89 lbs.	83 lbs.	2.	88 lbs.	84 lbs.	2.	90 lbs.	82 lbs.		foot	
	3.	90 lbs.	82 lbs.	3.	89 lbs.	83 lbs.	3.	89 lbs.	83 lbs.			
34.	1.	58 lbs.	77 lbs.	1.	65 lbs.	70 lbs.	1.	65 lbs.	70 lbs.	135 lbs.	Right	M
	2.	60 lbs.	75 lbs.	2.	65 lbs.	70 lbs.	2.	63 lbs.	72 lbs.		foot	
	3.	58 lbs.	77 lbs.	3.	60 lbs.	75 lbs.	3.	62 lbs.	73 lbs.			
35.	1.	65 lbs.	60 lbs.	1.	65 lbs.	60 lbs.	1.	66 lbs.	59 lbs.	125 lbs.	Left	F
	2.	65 lbs.	60 lbs.	2.	64 lbs.	61 lbs.	2.	64 lbs.	61 lbs.		foot	
	3.	64 lbs.	61 lbs.	3.	66 lbs.	59 lbs.	3.	67 lbs.	58 lbs.			
36.	1.	64 lbs.	61 lbs.	1.	70 lbs.	55 lbs.	1.	66 lbs.	59 lbs.	125 lbs.	Left	M
	2.	66 lbs.	59 lbs.	2.	69 lbs.	56 lbs.	2.	66 lbs.	59 lbs.		foot	
	3.	64 lbs.	61 lbs.	3.	66 lbs.	59 lbs.	3.	69 lbs.	56 lbs.			
37.	1.	59 lbs.	66 lbs.	1.	61 lbs.	64 lbs.	1.	61 lbs.	64 lbs.	125 lbs.	Right	M
	2.	59 lbs.	66 lbs.	2.	62 lbs.	63 lbs.	2.	60 lbs.	65 lbs.		foot	
	3.	60 lbs.	65 lbs.	3.	62 lbs.	63 lbs.	3.	62 lbs.	63 lbs.			
38.	1.	78 lbs.	85 lbs.	1.	72 lbs.	91 lbs.	1.	80 lbs.	83 lbs.	163 lbs.	Right	M
	2.	76 lbs.	87 lbs.	2.	71 lbs.	92 lbs.	2.	80 lbs.	83 lbs.		foot	
	3.	76 lbs.	87 lbs.	3.	72 lbs.	91 lbs.	3.	71 lbs.	92 lbs.			
39.	1.	70 lbs.	75 lbs.	1.	71 lbs.	74 lbs.	1.	68 lbs.	77 lbs.	145 lbs.	Right	F
	2.	71 lbs.	74 lbs.	2.	71 lbs.	74 lbs.	2.	66 lbs.	79 lbs.		foot	
	3.	68 lbs.	77 lbs.	3.	70 lbs.	75 lbs.	3.	71 lbs.	74 lbs.			
40.	1.	61 lbs.	59 lbs.	1.	64 lbs.	56 lbs.	1.	63 lbs.	57 lbs.	120 lbs.	Left	F
	2.	62 lbs.	58 lbs.	2.	64 lbs.	56 lbs.	2.	63 lbs.	57 lbs.		foot	
	3.	64 lbs.	56 lbs.	3.	64 lbs.	56 lbs.	3.	61 lbs.	59 lbs.			
41.	1.	80 lbs.	87 lbs.	1.	78 lbs.	89 lbs.	1.	77 lbs.	90 lbs.	167 lbs.	Right	F
	2.	81 lbs.	86 lbs.	2.	77 lbs.	90 lbs.	2.	77 lbs.	90 lbs.		foot	
	3.	79 lbs.	88 lbs.	3.	78 lbs.	89 lbs.	3.	75 lbs.	92 lbs.			
42.	1.	47 lbs.	69 lbs.	1.	54 lbs.	62 lbs.	1.	53 lbs.	63 lbs.	116 lbs.	Right	M
	2.	48 lbs.	68 lbs.	2.	53 lbs.	63 lbs.	2.	52 lbs.	64 lbs.		foot	
	3.	50 lbs.	66 lbs.	3.	52 lbs.	64 lbs.	3.	52 lbs.	64 lbs.			
43.	1.	90 lbs.	80 lbs.	1.	88 lbs.	82 lbs.	1.	88 lbs.	82 lbs.	170 lbs.	Left	M
	2.	90 lbs.	80 lbs.	2	90 lbs.	80 lbs.	2.	88 lbs.	82 lbs.		foot	
	3.	92 lbs.	78 lbs.	3.	93 lbs.	77 lbs.	3.	93 lbs.	77 lbs.			
44.	1.	75 lbs.	84 lbs.	1.	77 lbs.	82 lbs.	1.	76 lbs.	83 lbs.	159 lbs.	Right	M
	2.	74 lbs.	85 lbs.	2.	76 lbs.	83 lbs.	2.	75 lbs.	84 lbs.		foot	
	3.	76 lbs.	83 lbs.	3.	75 lbs.	84 lbs.	3.	77 lbs.	82 lbs.			

No.	Visit	Feet 12 cms. apart on two scales: Wgt. on left foot	Wgt. on Right foot	Visit	Feet 30 cms. apart on two scales: Wgt. on left foot	Wgt. on Right foot	Visit	Feet 45 cms. apart on two scales: Wgt. on left foot	Wgt. on Right foot	Body weight	Greater weight on	Sex
45.	1.	59 lbs.—	56 lbs.	1.	58 lbs.—	57 lbs.	1.	60 lbs.—	55 lbs.	115 lbs.	Left	F
	2.	59 lbs.—	56 lbs.	2.	58 lbs.—	57 lbs.	2.	60 lbs.—	55 lbs.		foot	
	3.	58 lbs.—	57 lbs.	3.	59 lbs.—	56 lbs.	3.	60 lbs.—	55 lbs.			
46.	1.	65 lbs.—	55 lbs.	1.	62 lbs.—	58 lbs.	1.	62 lbs.—	58 lbs.	120 lbs.	Left	F
	2.	68 lbs.—	52 lbs.	2.	62 lbs.—	58 lbs.	2	63 lbs.—	57 lbs.		foot	
	3.	66 lbs.—	54 lbs.	3.	62 lbs.—	58 lbs.	3.	65 lbs.—	55 lbs.			
47.	1.	65 lbs.—	51 lbs.	1.	61 lbs.—	55 lbs.	1.	60 lbs.—	56 lbs.	116 lbs.	Left	M
	2.	66 lbs.—	50 lbs.	2.	61 lbs.—	55 lbs.	2.	60 lbs.—	56 lbs.		foot	
	3.	66 lbs.—	50 lbs.	3.	60 lbs.—	56 lbs.	3.	61 lbs.—	55 lbs.			
48.	1.	78 lbs.—	76 lbs.	1.	78 lbs.—	76 lbs.	1.	78 lbs.—	76 lbs.	154 lbs.	Left	M
	2.	78 lbs.—	76 lbs.	2.	79 lbs.—	75 lbs.	2.	79 lbs.—	75 lbs.		foot	
	3.	79 lbs.—	75 lbs.	3.	79 lbs.—	75 lbs.	3.	78 lbs.—	76 lbs.			
49.	1.	75 lbs.—	68 lbs.	1.	75 lbs.—	68 lbs.	1.	73 lbs.—	70 lbs.	143 lbs.	Left	M
	2.	75 lbs.—	68 lbs.	2.	74 lbs.—	69 lbs.	2.	73 lbs.—	70 lbs.		foot	
	3.	73 lbs.—	70 lbs.	3.	75 lbs.—	68 lbs.	3.	73 lbs.—	70 lbs.			
50.	1.	73 lbs.—	80 lbs.	1.	76 lbs.—	77 lbs.	1.	75 lbs.—	78 lbs.	153 lbs.	Right	M
	2.	73 lbs.—	80 lbs.	2.	75 lbs.—	78 lbs.	2.	76 lbs.—	77 lbs.		foot	
	3.	71 lbs.—	82 lbs.	3.	74 lbs.—	79 lbs.	3.	72 lbs.—	81 lbs.			
51.	1.	70 lbs.—	66 lbs.	1.	71 lbs.—	65 lbs.	1.	70 lbs.—	66 lbs.	136 lbs.	Left	M
	2.	69 lbs.—	67 lbs.	2.	71 lbs.—	65 lbs.	2.	70 lbs.—	66 lbs.		foot	
	3.	70 lbs.—	66 lbs.	3.	72 lbs.—	64 lbs.	3.	70 lbs.—	66 lbs.			
52.	1.	68 lbs.—	77 lbs.	1.	68 lbs.—	77 lbs.	1.	72 lbs.—	73 lbs.	145 lbs.	Right	M
	2.	67 lbs.—	78 lbs.	2.	70 lbs.—	75 lbs.	2.	72. lbs.—	73 lbs.		foot	
	3.	66 lbs.—	79 lbs.	3.	69 lbs.—	76 lbs.	3.	71 lbs.—	74 lbs.			
53.	1.	71 lbs.—	84 lbs.	1.	70 lbs.—	85 lbs.	1.	71 lbs.—	84 lbs.	155 lbs.	Right	M
	2.	71 lbs.—	84 lbs.	2.	71 lbs.—	84 lbs.	2.	70 lbs.—	85 lbs.		foot	
	3.	70 lbs.—	85 lbs.	3.	71 lbs.—	84 lbs.	3.	70 lbs.—	85 lbs.			
54.	1.	70 lbs.—	60 lbs.	1.	70 lbs.—	60 lbs.	1.	68 lbs.—	62 lbs.	130 lbs.	Left	M
	2.	70 lbs.—	60 lbs.	2.	71 lbs.—	59 lbs.	2.	70 lbs.—	60 lbs.		foot	
	3.	71 lbs.—	59 lbs.	3.	70 lbs.—	60 lbs.	3.	71 lbs.—	59 lbs.			
55.	1.	78 lbs.—	81 lbs.	1.	78 lbs.—	81 lbs.	1.	79 lbs.—	80 lbs.	159 lbs.	Right	M
	2.	78 lbs.—	81 lbs.	2.	79 lbs.—	80 lbs.	2.	78 lbs.—	81 lbs.		foot	
	3.	77 lbs.—	82 lbs.	3.	78 lbs.—	81 lbs.	3.	78 lbs.—	81 lbs			
56.	1.	87 lbs.—	86 lbs.	1.	87 lbs.—	86 lbs.	1.	88 lbs.—	85 lbs.	173 lbs.	Left	M
	2.	88 lbs.—	85 lbs.	2.	88 lbs.—	85 lbs.	2.	87 lbs.—	86 lbs.		foot	
	3.	87 lbs.—	86 lbs.	3.	87 lbs.—	86 lbs.	3.	88 lbs.—	85 lbs.			
57.	1.	91 lbs.—	81 lbs.	1.	90 lbs.—	82 lbs.	1.	89 lbs.—	83 lbs.	172 lbs.	Left	M
	2.	91 lbs.—	81 lbs.	2.	90 lbs.—	82 lbs.	2.	90 lbs.—	82 lbs.		foot	
	3.	92 lbs.—	80 lbs.	3.	92 lbs.—	80 lbs.	3.	90 lbs.—	82 lbs.			
58.	1.	77 lbs.—	91 lbs.	1.	82 lbs.—	86 lbs.	1.	83 lbs.—	85 lbs.	168 lbs.	Right	M
	2.	78 lbs.—	90 lbs.	2.	80 lbs.—	88 lbs.	2.	82 lbs.—	86 lbs.		foot	
	3.	75 lbs.—	93 lbs.	3.	74 lbs.—	94 lbs.	3.	80 lbs.—	88 lbs.			
59.	1.	80 lbs.—	85 lbs.	1.	80 lbs.—	85 lbs.	1.	81 lbs.—	84 lbs.	165 lbs.	Right	M
	2.	80 lbs.—	85 lbs.	2.	77 lbs.—	88 lbs.	2.	78 lbs.—	87 lbs.		foot	
	3.	79 lbs.—	86 lbs.	3.	77 lbs.—	88 lbs.	3.	78 lbs.—	87 lbs.			
60.	1.	69 lbs.—	82 lbs.	1.	70 lbs.—	81 lbs.	1.	71 lbs.—	80 lbs.	151 lbs.	Right	F
	2.	70 lbs.—	81 lbs.	2.	69 lbs—	82 lbs.	2.	71 lbs.—	80 lbs.		foot	
	3.	68 lbs.—	83 lbs.	3.	69 lbs.—	82 lbs.	3.	71 lbs.—	80 lbs.			
61.	1.	64 lbs.—	71 lbs.	1.	66 lbs.—	69 lbs.	1.	64 lbs.—	71 lbs.	135 lbs.	Right	F
	2.	62 lbs.—	73 lbs.	2.	64 lbs.—	71 lbs.	2.	64 lbs.—	71 lbs.		foot	
	3.	61 lbs.—	74 lbs.	3.	63 lbs.—	72 lbs.	3.	64 lbs.—	71 lbs.			
62.	1.	140 lbs.—	118 lbs.	1.	133 lbs.—	125 lbs.	1.	131 lbs.—	127 lbs.	258 lbs.	Left	M
	2.	138 lbs.—	120 lbs.	2.	133 lbs.—	125 lbs.	2.	132 lbs.—	126 lbs.		foot	
	3.	141 lbs.—	117 lbs.	3.	132 lbs.—	126 lbs.	3.	134 lbs.—	124 lbs.			
63.	1.	76 lbs.—	99 lbs.	1.	83 lbs.—	92 lbs.	1.	85 lbs.—	90 lbs.	175 lbs	Right	M
	2.	78 lbs.—	97 lbs.	2.	85 lbs.—	90 lbs.	3.	85 lbs.—	90 lbs.		foot	
	3.	78 lbs.—	97 lbs.	3.	84 lbs.—	91 lbs.	3.	84 lbs.—	91 lbs.			
64.	1.	90 lbs.—	84 lbs.	1.	90 lbs.—	84 lbs.	1.	93 lbs.—	81 lbs.	174 lbs.	Left	M
	2.	90 lbs.—	84 lbs.	2.	88 lbs.—	86 lbs.	2.	90 lbs.—	84 lbs.		foot	
	3.	88 lbs.—	86 lbs.	3.	88 lbs.—	86 lbs]	3.	91 lbs.—	83 lbs.			
65.	1.	85 lbs.—	78 lbs.	1.	86 lbs.—	77 lbs.	1.	85 lbs.—	78 lbs.	163 lbs.	Left	M
	2.	86 lbs.—	77 lbs.	2.	85 lbs.—	78 lbs.	2.	83 lbs.—	80 lbs.		foot	
	3.	85 lbs.—	78 lbs.	3.	86 lbs.—	77 lbs.	3.	85 lbs.—	78 lbs.			
66.	1.	76 lbs.—	71 lbs.	1.	75 lbs.—	72 lbs.	1.	75 lbs.—	72 lbs.	147 lbs.	Left	M
	2.	77 lbs.—	70 lbs.	2.	75 lbs.—	72 lbs.	2.	76 lbs.—	71 lbs.		foot	
	3.	76 lbs.—	71 lbs.	3.	76 lbs.—	71 lbs.	3.	75 lbs.—	72 lbs.			
67.	1.	56 lbs.—	63 lbs.	1.	54 lbs.—	65 lbs.	1.	55 lbs.—	64 lbs.	119 lbs.	Right	F
	2.	55 lbs.—	64 lbs.	2.	54 lbs.—	65 lbs.	2.	56 lbs.—	63 lbs.		foot	
	3.	57 lbs.—	62 lbs.	3.	54 lbs.—	65 lbs.	3.	55 lbs.—	64 lbs.			

In our group, carefully measured, the leg shortening was far below the proverbial 1 inch in most of the subjects. Yet they showed a standing distributed weight difference in three different relaxed positions on three different visits. To be sure, the amount varied but its presence remained almost constant on right or left side. Possibly this weight factor must be added and considered along with our length measuring in evaluating a patient's low back status. The author wishes to present it as such for further consideration and study by other workers. The literature, so far examined. reveals no comparable length-weight correlation study such as ours. Possibly the weight bearing difference over a period of time would act as a focus of stress and strain in individuals whose leg length difference is negligible.

SUMMARY

Leg length and weight bearing studies were made on 67 medical students. Low back pain and its cause was the objective. Variations in posture and weight bearing were sought in these young people. Such have been set down in table form as possible stress and strain factors. Distributed weight-bearing measurements related to leg length differences offer a clearer picture of possible right or left sided strain. Instances of negligible leg shortening show marked distributed weight bearing differences. The latter are offered for consideration as a focus of stress and strain on the lower back. A definite group stood with both the greater weight and greater leg length on the same side.

REFERENCES

Adams, J.: Technic of back examination and interpretation of findings, Bull. New England M. Center, 8: 215, 1946.

Carey, E.: Radiology, 41: 554, 1943.

Elftman, H.: Experimental studies on dynamics of human walking, Trans. New York Acad. Sci. Sec. II, Vol. 6, November 1943.

Goldthwait, J. E. et al.: Essentials of Body Mechanics in Health and Disease, 4th Ed. J. B. Lippincott Co., Philadelphia. 1945.

Hansson, K.: Body mechanics and posture, J.A.M.A., 128: 947 (July 28) 1945.

McCusker, H.: Laborer's backaches, Rhode Island M. J. 28: 174 1945.

Symposiu mon Intervertebral Disc, J. Bone & Joint Surg., 29: 424, 543, 1947.

Truslow, W.: Body poise. Williams and Wilkins Co., Baltimore Md., 1943.

Williams, P.: Low back pain. South. M. J., 33: 788, (August) 1940.

FEMORAL EMBOLISM FOLLOWING INTERNAL FIXATION OF HIP*

JOHN F. NABOS, M. D.
NEW ORLEANS

With the progress of science, we practicing medicine today are seeing more and more elderly patients. It is estimated that by the end of this year there will be 13,150,000 persons, in the United States, aged, 65 or over. This is just double the corresponding figure in 1930, and more than four times that in 1900. Today, through the combined efforts of the anesthetist, internist, and surgeon, the "old patient" has a better chance of surviving a major surgical procedure.

In the specialty of orthopedic surgery, fractures of the hip, intracapsular and intertrochanteric, are prevalent in this age group. It, therefore, seems reasonable to conclude that with the increase in the number of persons in this age group we should expect a corresponding increase in the number of patients with fractures of the hip. Recently in two consecutive admitting days, the Louisiana State University, orthopedic service, Charity Hospital, New Orleans, Louisiana, admitted 8 patients with fractures of the hip. The Tulane orthopedic service in one admitting day admitted 4 patients with fractures of the hip. All patients were in the elderly age group.

I believe it would be interesting to review the evolution of treatment of fractures of the hip. In 1902, Whitman introduced his method of reduction and external fixation. In 1925, Smith Peterson introduced open reduction and internal fixation by his now famous three flanged nail. Johansson cannulated the nail and advocated blind nailing in 1932. In the 1940's, Judet made prosthetic arthroplasty a workable procedure. Today the popular treatment of fractures of the hip, in the elderly age group, is internal fixation, and in a few selective cases of hip prosthesis.

The following report is of a complication

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occuring in a patient, in this age group, with a fractured hip, treated by internal fixation. It is a catastrophic vascular complication, acute occlusion of the femoral artery. It is a known fact that a larger percentage of aged surgical patients are more susceptible than young persons to postoperative vascular complications; danger increases with age.

CASE REPORT

This is a case of a white female, age 83 years, admitted February 13, 1953, with the complaint of painful left hip. She lived with a son, who was at work at the time of the accident and believed patient had sustained injury several hours before anyone discovered her.

I was requested to see the patient, by her physician, after x-rays revealed an intracapsular fracture of the left hip. He informed me patient had been under his care for arteriosclerotic heart disease, and heart failure.

On admission patient was dehydrated, febrile (101° F.), and spoke incoherently. The left lower extremity was held in external rotation and was shorter than right. Any motion caused pain. The pulse was irregular; blood pressure 170/92. The heart was enlarged and a blowing systolic murmur was heard at the apex. There were crepitant rales at the base of both lung fields. Left lower extremity was placed in Russell's traction.

Laboratory and Roentgen ray data: Blood cell count and blood chemistry were within normal limits. Urinalysis, 1 plus albumin; remainder within normal limits. The chest roentgenogram (portable) revealed calcification in the aorta with marked enlargement of the cardiac shadow. The left cardiac border extended to the lateral chest wall. The lung fields were negative for evidence of active disease. X-ray of left hip disclosed a subcapital fracture, neck left femur. Electrocardiogram taken on February 14, 1953, disclosed a left bundle branch block. Definite electrocardiographic evidence of myocardial disease. Healed anterior lateral infarct could not be ruled out.

Hospital Course: Preoperative physical survey was completed after patient was fully digitalized. On February 19, 1953, a blind Smith Peterson hip nailing was performed.

Sodium pentothal and nitrous oxide were used as anesthetic agents, Patient received 500 c.c. whole blood during surgery. Operative time one hour, thirty-five minutes. Patient was returned to ward in satisfactory condition.

On February 21, 1953, pulse irregular. A diagnosis of auricular fibrillation was made. On fourth postoperative day patient allowed up in wheel chair two hours each day. On February 24, 1953, quinidine sulfate given because of persistent auricular fibrillation.

The morning of February 26, 1953, the seventh postoperative day, patient was restless, and complained of pain in left lower extremity. I was called to see the patient when the nurse noticed that the left lower extremity was pale and cold. Patient was restless and crying out because of pain. Blood pressure, 146/86, pulse irregular. The left lower extremity was blanched, cold, pulseless, and patient was unable to move extremity. The pallor extended to mid-thigh. Diagnosis of acute occlusion of the femoral artery became evident. Lumbar sympathetic block 1-2-3-4, performed, heparin given and extremity elevated. She became more comfortable but no changes were noticed in extremity. That P.M. general condition of patient became worse. The next morning there was a line of demarcation immediately below patella. The skin below this area was now cyanotic and cold. Her general condition was worse. Prothrombin time was 70 per cent. She expired early the next morning.

The presentation of this case is a reminder to all of us of a potential complication that can and does occur in the elderly age group. It is not peculiar to the surgical case but it occurs equally as frequently in medical cases. When it does occur, it is to be treated as an emergency, be it by the conservative method or the surgical method.

DIAGNOSIS

The diagnosis of peripheral arterial embolism may be difficult and this condition can be confused with primary thrombosis of the peripheral vessel, with a propagating thrombus superimposed on a small embolus incompletely occluding the vessel, or with arterial spasm secondary to thrombosis or to a small embolus. To confirm the diagnosis the source of the embolus should be looked for. The source is almost always (1) a thrombus in the left auricular appendage due to auricular fibrillation; (2) a mural thrombus in the left ventricle as a result of coronary occlusion and myocardial infarction; or (3) thrombosis of an atherosclerotic or arteriosclerotic plaque or an aneurysm of the abdominal aorta.

The more important symptoms of peripheral arterial embolism are: pain, pallor, paralysis, absent pulsations and temperature changes. Pain is usually sudden, severe, and agonizing. However, it may not be present in all cases. In a series of 47 cases of acute occlusion of a peripheral

artery, reported by Linton only 69 per cent gave history of sudden pain.

TREATMENT

The treatment of embolus of a peripheral artery may be: (1) conservative, (2) surgical. The conservative treatment consist of paravertebral novacaine block, and/or papaverine. Linton advocates early paravertebral block to interrupt the sympathetic pathways, counteract arterial spasm, and aid in helping to establish the collateral circulation. Lesser advocates papaverine hydrochloride, intravenously, ½ to 1 grain doses, repeated at hourly intervals for the relief of arterial spasm. Intermittent venous occlusion with the oscillating bed has its supporters. Anticoagulants are used for prevention of further thrombus and to prevent any thrombus formation on the existing embolus. Allen states reduction of the prothrombin time below 50 per cent of normal is probably not safe for elderly people. When anticoagulants are given they should be continued for approximately twenty-seven days. Once a patient is given anticoagulants the paravertebral block should not be repeated because of danger of possible retroperitoneal hemorrhage.

The surgical treatment is embolectomy. Klingensmith and Theis state that the optimal conditions for favorable results are: (1) duration of the occlusion less than eight hours; (2) site of obstruction at the bifurcation of large vessel; (3) normal arterial wall at site of embolus; (4) absence of multiple emboli; (5) absence of rapid clotting tendency of the blood that will contribute to secondary or propagating thrombosis; and (6) youth of the patients, particularly those with auricular fibrillation. The operation is less likely to be successful in elderly patients with severe coronary disease.

In the prevention of this serious complication it must be realized that there is an added factor, other than those believed to be present in the production of venous thrombosis. This is a most important factor, the cardiac factor. It is advocated, by several writers that in a patient with evidence of recent or old coronary involvement, who develops auricular fibrillation, that quinidine sulfate be given in the endeavor to establish normal rhythm and to prevent thrombus formation in the auricular appendage. Anticoagulants should be given for the prevention of possible formation of mural thrombus. A recent article by Allen is recommended for those interested in postoperative venous thrombosis. The cardiac factor, in my opinion, is best managed by an internist.

REFERENCES

1. Foord, A. C.: Embolism and thrombosis in coronary heart disease, J. A. M. A., 138:1009, 1948.
2. Anderson, George M.: Treatment and prevention of pulmonary embolism, venous thrombo-embolic episodes., New Orleans. M. & J., 102:162, 1949.
3. Parsons, W. H.: Thrombosis and embolism, New Orleans M. & J., 104:343, 1952.
4. Klingensmith, W. and Theis, F. V.: Femoral and iliac artery embolectomy, J. A. M. A., 150:1393, 1952.
5. Gage, M.: Hidden thrombus of fatal pulmonary embolism, J. A. M. A., 151:433, 1953.
6. Lesser, A.: Embolic arterial occlusion of lower extremities with report of 4 successful embolectomies and review of the literature, J. A. M. A., 122:285, 1943.
7. Warren, R., and Linton, R. R.: The treatment of arterial embolism, New England J. Med. 238:421, 1948.
8. Veal, J. R. and Dugan, T. J.: Peripheral arterial embolism, Ann. Surg. 133:603, 1951.
9. Linton, R. R.: Acute peripheral arterial occlusion and its treatment, New England J. Med. 216:871, 1937.
10. Dickinson, A. M.: Embolism of the peripheral arteries: Report of 6 cases, Am. J. Surg. 57:508, 1942.
11. Allen, A. W.: Thromboembolic disease after surgery, Surg. Gynec. & Obst. 96:107, 1953.
12. Miller, J. H.: The growing problem of chronic disease among the aged, J. A. M. A. 150:203, 1952.

PERSONAL EXPERIENCE IN THE USE OF HOMOGENOUS AND BEEF BONE IMPLANTS;

A SUPPLEMENTARY REPORT*

S. RALPH TERHUNE, M. D.
PAUL W. SHANNON, M. D.
BIRMINGHAM, ALABAMA

The use of homogenous and heterogenous bone implantations continues "at sixes and sevens" and groups argue about their value like "Kilkenny cats." "Namby Pambys" condemn from the start and "Sir Galahads" show too much enthusiasm. Our cases are presented in the hope that they will prove valuable in eventual adjustment of reasoning, inevitably following long time balancing of multiple personal experiences. We are not "sowing dragon's teeth."

During the two years ending April 17,

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1953, 130 bone implants were done on 123 patients. Refrigerated homogenous bone was exclusively employed in 90 and beef bone in 39. In one spinal fusion, we used an homogenous "H" graft at L-4 to L-5, and a beef "H" graft in the lumbosacral joint. Therefore, this report covers homogenous bone in 91 and beef bone in 40 operations.

In 4 patients, 5 procedures were supplementary additions to aid union at long bone osteotomy sites. A thirty-six years old female did not obtain union after a beef onlay across her femoral osteotomy. An homogenous onlay seven months later resulted in mature union for weight bearing after seven months.

A forty-four years old patient obtained union following a beef onlay across his femoral osteotomy. Solid union was demonstrated by manipulation under general anesthesia and by roentgenogram at fourteen weeks.

An homogenous onlay to reinforce a midtibial osteotomy in a one year old child showed union at six weeks.

The remaining case in this group was a fourteen years old boy with a midtibial shaft defect following a fracture with infection. A second stage fibular transplant to the distal tibial stump was reinforced by an homogenous onlay with screw fixation to both tibial fragments. This was done on March 20, 1953.

Since nonunion occurs so frequently after fracture in the distal third of the tibia, an homogenous cortical onlay with screw fixation was added, along with cancellous chips to a fresh comminuted fracture of the distal tibial shaft in a sixty-five year old patient on March 17, 1953.

Nonunion followed double onlay homogenous grafts with screw fixation across a congenital pseudo-arthrosis of the tibia in an eighteen months old child. The graft was repeated a year later, and solid union was present at seventeen weeks.

To substitute for the congenital absence of the distal three-fourths of a tibia in a two-year old child, the stump was attached to the fibula and the junction reinforced with an homogenous onlay. There was solid union three months later when the excess proximal part of the fibula was transplanted to form the medial portion of an ankle mortise. Subsequent slough from infection necessitated amputation.

Bank bone was employed for reinforcement in 10 attempts to reverse nonunion after long bone fractures in 9 adults. Substitution of a complete 2 inch tibial shaft defect was followed by an early uncontrollable local infection requiring midthigh amputation.

Nonunion of fractures of the midthird of the ulna and radius was corrected in 2 individuals with onlay homogenous cortical grafts and screw fixation. Mature union occurred at seven weeks in one and at eleven weeks in the other.

Three unions followed femoral shaft fracture nonunions, three, four, and six months, respectively, after open approximation of freshened fragment ends and reinforcement with homogenous cortical onlays fixed with screws.

An humeral shaft nonunion treated in a similar manner showed union at five and one-half months.

One patient suffered a refracture after the application of an homogenous graft and reinforcing plate and screws at the site of a femoral shaft fracture on resuming active ambulation at six months. An intramedullary nailing in addition to another homogenous bone graft onlay and plating was done on March 12, 1953.

A fifty-one year old woman with an excellent Smith-Peterson nailing of a well reduced femoral neck fracture on June 14, 1952, had a peg type homogenous cortical graft driven along the nail course with the addition of a Jewett nail and screw fixation on January 23, 1953, on account of slipping of the ununited fragments a few days previously during unauthorized weight bearing. A roentgenogram at eleven weeks showed weak union.

A Brittain fusion using beef cortex in a thirteen-year old child with tuberculous caries of a hip showed union at eight months.

Cortical and cancellous homogenous bone

was employed in two twelve-year old children for shelf construction to supplement acetabular roofs following poliomyelitis hip dislocations. Union was evident in both at thirteen weeks.

Consolidation of the talo-navicular and naviculo-cuneiform joints of both feet occurred in a sixteen-year old rigid flatfoot sufferer during the fifth month after inlay grafting with beef cortex.

Four benign cysts and two giant cell tumor cavities were packed with homogenous cortical and cancellous chips. Five showed complete elimination in sixty to ninety days. The other was a giant cell tumor of the distal femoral metaphysis in a twenty-five year old female. It appeared eliminated at six months. The patient returned fourteen months following the surgery because of recurrence of pain and swelling during pregnancy. Complete absorption with increase in size of the original cavity was found. Biopsy proved malignant change and upper thigh amputation followed.

One hundred spinal fusion procedures employing bank bone were done on 97 patients. These consisted of 90 cortex implantations of the Moore "clothes pin," the Breck "H," or the Rieth type joint blocks; 3 onlay sections with side to side screw fixation through spinous processes; and 7 homogenous cortical and cancellous chip additions to Hibb's fusion operations.

One of the group of 7 chip addition procedures was done fourteen months after an L-4 to S-1 "clothes pin" graft. Union had occurred in the center of this graft but there was nonunion at both ends. The patient wears a brace with no back or leg pain two months postoperatively.

Added chips were used in 4 spinal fusion operations for scoliosis correction. Union was present in each instance at eleven to twelve months.

A patient with an unstable fifth lumbar vertebra had such small lumbar spinous processes that a block graft could not be done. Chips from L-4 to the sacrum resulted in solid union at seven months.

Stabilization of a fifth lumbar spondylolisthesis was accomplished by facet joint curettement and screw fixation. Chips were added from L-4 to the sacrum. Roentgenograms indicated fusion at seven months.

An homogenous cortical onlay from L-3 to the sacrum was applied across a nonunion of a previously placed autogenous graft opposite the fifth lumbar vertebra. Roentgenograms at six months were noncommittal, but the patient was independent of external support at nine months with no subsequent back or leg pain.

Complete bilateral laminectomy to eliminate the site of a degenerative bone cyst at the third lumbar level was followed by a double cortical beef onlay from L-1 to L-5 with multiple screw fixation in a thirty-seven year old male. At eight months, union was questionable. He returned to his job as an airplane mechanic at ten months without external support. Roentgenograms at seventeen months showed apparent union with no bone cyst recurrence.

An obese twenty-six year old woman sustained a fracture-dislocation of the tenth dorsal vertebra with cord transection and complete paralysis from that level. Nursing care was facilitated by the early addition of a beef cortex section from 8-D to 1-L with multiple screw fixation. At six months there was no evidence of union but at one year union was mature. She is now being trained in crutch-aided ambulation.

We observed 70 of the 90 spinal joint block procedures for six to eighteen months. Fifty-three had follow-up roentgenograms, and 29 of these or approximately 56 per cent showed solid union six to seventeen months postoperatively. An additional 20, or 36 per cent, obtained questionable union, and the remaining 4, or 8 per cent, showed nonunion. Three of these nonunions have undergone subsequent refusion procedures.

These results are based on follow-up roentgenographic evidence only. Clinically, the results are better.

The patient who had a beef cortex block of L-4 to L-5 and an homogenous block of L-5 to 1-S presented solid union of both joints at six months. No appreciable difference was determined in the rate of union

between the beef and the human block in this case.

In one patient, an autogenous section of tibial cortex placed in the L-3 to 1-S area four and one-half years previously failed to unite. An homogenous section was applied and mature union was present at thirteen months.

An homogenous implant from L-4 to 2-S did not unite. Therefore, at fourteen months, a beef cortex section was applied. Immature union was demonstrable at seven months.

Reoentgenograms were repeated on 85 of the 130 procedures six to seventeen months postoperatively. These films include 58 homogenous and 27 beef implants.

Thirty-four, or 59 per cent, of the homogenous transplants resulted in unions while 17, or 29 per cent remained questionable, and 7, or 12 per cent represented definite nonunions.

Twenty-two of the 27 beef implants, or 81 per cent, developed union, with 3, or 12 per cent remaining questionable, and 2 or 7 per cent resulting in nonunion.

The beef implantations in this series may be "neither fish, flesh, nor good red herring," but on the other hand, they do not represent "a stalking horse."

Three homogenous and 1 of the beef implants became infected postoperatively. This rate is almost identical with the rate during the twenty-seven months preceding the existence of the bone bank, when we had 4 infections to follow 131 autogenous transplants.

It is increasingly obvious that beef bone implants are not accompanied by any greater incidence of infection.

The status of implanted bone unions in this series will of course be more accurate after repeated roentgenograms and clinical evaluation for at least two or three years postoperatively. Consequently, we insist that the present report be considered preliminary as far as beef bone is concerned, and supplementary in regard to homogenous bone implantations. At this time, it is not a report ex cathedra.

Our opinion that autogenous transplants stand the best chance for survival remains unchanged, but homogenous transplants are practical and result in a comparable number of unions. Beef implantations may not be as good as autogenous transplants but their use has been proved safe and valuable for stimulating bone union.

"In the works of man as in those of nature, it is the intention which is chiefly worth studying." (Goethe).

N. B. In our first few cases, the implanted bone was fresher and had been frozen for only a few days. Some of these patients had extremely high temperature elevations for four or five days. Subsequently, after longer periods of freezing, the patients did not have high temperature reactions postoperatively.

This same experience was encountered with the use of beef bone.

In our opinion, frozen homogenous and frozen beef bone dies after implantation and serves as a framework housing for creeping substitution. Fresh unfrozen beef bone and fresh unfrozen homogenous bone would be less acceptable by the host organism. Prolonged freezing seems to diminish the antigenic properties, and this results in fewer inflammatory reactions following implantation.

Therefore both homogenous bone and beef bone are made more acceptable for graft purposes, by prolonged freezing.

REFERENCES

1. Herbert, J. J.: Homografts and the bone bank, J. Bone & Joint Surg., 33-B: 3, 1951.

2. Inclan, Alberto: The use of preserved bone graft, J. Bone & Joint Surg. 24:81, 1942.

3. Shannon, P. W. and Terhune, S. R.: The low back problem, Amer. Surg., 17:12, 1951.

4. Terhune, S. R.: Graft substitution of long bone shaft defects, Sou. Surg., 12:2, 1946.

5. Terhune, S. R.: Personal experience with the use of bone bank bone, Trans. Assoc. Surgeons of the Southern Railway System, 8:7, 1952.

6. Terhune, S. R. and Shannon, P. W.: Personal experience in the use of bone bank bone, J. M. A. State of Alabama, 22:3, 1952.

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PHYSICIANS' COOPERATION NEEDED IN STUDY OF BLOOD PRESSURE IN PERSONS OVER SIXTY-FIVE

Dr. Arthur M. Master and associates are undertaking the study of blood pressure in people 65 and over. The investigation is under the auspices of the New York Heart Association, and is being carried on with the cooperation of the National Heart Institute, and the assistance of the American Medical Association. The cooperation of physicians all over the country is being earnestly sought. They ask for very simple data on six newly examined people over 65, two of them between 65 and 69, two 70 to 74, and two 75 and over; if possible, one in the 80's. Data are requested on persons who shall be in fairly good health, up and about at the time of examination, although they may have some chronic illness. People able to work part or full time are particularly desired. If they are well at the time of examination, people with rheumatic heart disease or previous coronary disease or hypertension may be included. The most suitable subjects suggested are patients coming for routine examination, and relatives or friends, in the desired age group.

The importance of this study becomes apparent when it is realized that because of the growing number of older people in the United States, accurate information is desirable. There is a paucity of data in the age groups for this study. With the increasing life span many more millions of advanced age will be added within several decades. The thought in this study is to know (1) the normal range of blood pressure as well as the lower limit of hypertension for each age group over 65 for both sexes; (2) whether the blood pressure continues to increase with age and to vary with sex in those who are more than 65 years old; (3) whether the blood pressure is related to weight; or (4) to surface area; or (5) to height.

The relationship of hypertension to the many degenerative vascular diseases, also to hypercholesteremia and diabetes, should be re-investigated in people over 65.

This type of study was recently completed by Master and his group in 74,000 people 16 to 64 years of age. On the basis of that study new limits of normal blood pressure were proposed. From that study of people under 65, important clinical deductions have been made. Among these is the relationship between hypertension and coronary occlusion. It had been generally accepted that an etiologic relationship existed here in both sexes. However, using the limits of normal blood pressure newly established for those under 65, it was shown that such a causal relationship exists only in women; in men, no important relationship between hypertension and coronary occlusion was found.

Also, it was noted that enlargement of the heart occurred not uncommonly in men with coronary occlusion when their blood pressure had been normal. It was concluded that coronary artery disease alone could produce cardiac enlargement in men. Women, on the contrary, rarely developed cardiac enlargement if their blood pressure was normal. Consequently, hypertension appeared to be a very important factor in the production of enlargement of the heart in women.

In recent decades, the figures of 150/90 were used as the upper limit of normal for all adults over 40. This did not take into account the important influence of age by decade, and sex, on the normal blood pressure. This resulted in an excessive incidence of hypertension. The ranges of normal blood pressure for each decade and sex were published by Master in 1950. The upper limit of normal was higher for each age group than that previously used. In the study referred to an adequate source material was available among the larger industrial concerns. In the study now proposed in the older age group, it is obvious that data can only be obtained from the practicing physician.

The data needed in completing the questionnaire which will be furnished are simple. The information gained may be most important. As most of the physicians whose assistance is sought are hoping to make at least a brief excursion into the decades under investigation the medical observations ultimately to be published would be of importance to them. Those who are willing to make these simple reports for an important study should send a postcard to "Blood Pressure Study," 11 East 100th Street, New York 29, New York. The questionnaire and explanations will be forwarded to them.

The value of the study is dependent upon its breadth and accuracy. It is earnestly hoped that the profession will make these data available.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

SCHOOL HEALTH PROGRAM

Following is a report submitted by Dr. William E. Barker, Jr., who attended the Conference of Physicians and Schools held at Highland Park, Illinois, September 30 to October 2.

Nearly two hundred physicians, educators and Public Health workers participated in the Conference. The calibre of the men and women present was of the highest. The assembly was addressed by both Dr. Ed. J. McCormick and Dr. George F. Lull among other notables.

Those attending were divided into twelve groups of eighteen to twenty people, each group studying a different phase of the School Health Program. I was placed in the "Medical Society School Health Committee" group. This group was composed of eighteen men and women representing Medicine, Health and Schools.

A lively discussion was engaged in at each point as the proposed outline was spelled out in detail to the end that a quite satisfactory program was mapped out as a guide to medical societies in forming and operating a School Health Program.

The Conference was of the nature of a National Planning Group, and the outlines were made flexible enough to be of service in almost all parts of the Country. The following abstract of the meeting is so complete it is incorporated as part of this report.

Dr. Edward J. McCormick, Toledo, Ohio, President of the American Medical Associa-

tion, reported that accidents were the greatest hazard of childhood, killing more than 14,000 children annually.

He pointed out that the combined efforts of medical and lay groups already have been rewarded by reducing child mortality more than 50 per cent in the last 15 years. He predicted a further decrease. An increased control of disease not only has raised the average life span to 68 years but has kept intact many homes.

The Conference was divided into subject groups which discussed particular problems informally. On the final day, each division made its report at the general session.

The importance of adequate screening of candidates for teaching positions was emphasized by a discussion group presided over by Dr. Leland M. Corliss, Director of Health Services in the Denver public schools. The group also pointed out the need for a freer exchange of health information by schools, families and private doctors so as to assist the teacher in the proper management of her pupils. Nurses serving high schools, it was reported by the group, are valuable as health counselors and should have the same status as faculty members. The assignment of nurses to regular teaching was discouraged.

School health services in rural areas can be improved through the development of full-time local public health units, it was reported by a group headed by Dr. Louis K. Hundley, Pine Bluff, Arkansas. Health councils and women's auxiliaries of medical societies were suggested as helpful groups in surveying county health resources.

In communities where there is a shortage of health service personnel, it was urged that priority be given to such physical environment problems as pure drinking water, adequate waste disposal, heating, ventilation and lighting. Emphasis also should be placed on safety on playgrounds, in buildings and during transportation, it was added.

The importance of a plan for meeting emergencies of illness and injury at school was stressed. School lunchrooms, encouragement of immunization of children, and safety education were cited as worthwhile protective and preventive services.

Family responsibility for a child's health was stressed by a group presided over by Dr. Franklin M. Foote, New York, Executive Director of the National Society for the Prevention of Blindness.

It was suggested that teachers and other personnel be instructed in the early signs of a deviation from normal in child physical and mental health in order to recognize such changes. The importance of good school environments as a factor in health education was emphasized.

Since a health examination is a good health teaching experience, this should not be done on a mass basis, in the opinion of the group. The role of a consulting physician for the school to act as a leader in coordinating health activities was brought out.

For the first time the Conference considered mental health aspect of teaching in the classroom. A group discussing that question was presided over by Walter E. Hager, President of the Wilson Teachers College, Washington.

It was agreed that teachers strongly affect the mental and emotional health of children and that, for this reason, teachers must be thoroughly well adjusted persons in order to carry out proper teaching approaches. This, it was pointed out, calls for better selective processes in universities or colleges which train teachers.

The group felt that before this selective process would be successful, there is need to establish criteria that would raise the standards for selection of teachers. It was suggested that an organization, such as the National Education Association, undertake the setting up of a committee whose aim would be to establish such criteria.

Desirable health standards for sports programs in both elementary and high schools were recommended by a discussion group headed by Carl A. Troester, Jr..

Washington, Secretary of the American Association for Health, Physical Education and Recreation. For elementary school children, sports involving severe body contact and competition beyond the community level at district, state and national levels, as well as "bowl games," should be avoided, it was urged. Such activities, in addition to potential hazards to physical and mental health, create situations in which the children may be exploited, whether intentionally or not, it was stressed.

For youths of high school age, it was pointed out, the program should recognize individual differences in age, physical ability, experience and health of the participants. It was urged that an adequate medical examination precede participation in vigorous activities and that a physician be present at all contests where the accident hazard is pronounced.

Creation of advisory school health councils as a means of best meeting the health needs of children was urged by a discussion group headed by Dr. John W. Shackelford, Oklahoma City, Director of local health service for the Oklahoma Department of Health. Such a council should be made up of representatives of all segments of the community, it was emphasized.

Community responsibility for the health of school children, in the opinion of discussants, rests primarily with the schools and the health departments of education in consultation with the medical and dental professions. Leadership, guidance and assistance to schools provided in the formation of health councils depend in a large measure on the support it receives from its member organizations.

The importance of interchange of health appraisal data on children was discussed by a group of which Miss Gertrude E. Cromwell, Supervisor of Nursing in the Denver public schools, was Chairman. Such interchange, it was suggested, should involve practicing physicians, school health workers and teaching personnel, parents, and community health agencies. The confidential nature of some of the information must be respected, it was pointed out. However, the value of such information as to a child's physical ability, his handicaps, his mental or emotional status, and his home conditions in effecting a proper adjustment in school, was emphasized. Epilepsy and heart cases were cited as examples.

Medical societies should have active health committees to coordinate the efforts of the profession in the promotion of the health of the school child, it was suggested by a group headed by Dr. John L. Reichert, Chicago, Chairman of the Chicago Medical Society's Committee on Child Health.

The functons of such a committee, it was pointed out, are (1) to encourage sanction by the medical profession of a sound school health program; (2) to assist in establishing sound policies and procedures in the health program, and (3) to develop reciprocal relations with the dental society, school system, health department, parent groups and other organizations. A medical society committee does not relieve the individual physician of responsibility for active participation in the school health affairs of his community, it was stressed. Maintenance of good health records is vital to the provision of sound health services, it was pointed out by a group presided over by Dr. Harold M. Erickson, Portland, Oregon, State Health Officer of the Oregon Board of Health. Such records, it was reported, can aid in a better understanding of the health needs of the individual child, and assist medical, educational, public health and other interested groups in their understanding of child health problems.

State and local conferences on physicians and schools have resulted in the development of effective school health programs, it was reported by a group headed by Dr. Ray O. Bjork, Helena, Montana, Vice Chairman of the Joint Committee on Health Problems in Education, a group sponsored by the American Medical Association and the National Educational Association.

Topics suggested for such state and local conferences were: control of communicable

diseases, emergency care, athletics and health, methods of health appraisal, screening technics, health services, health instruction, school health policies, the role of the physician and dentist in the health of the school age child, community resources available, current medical and educational practices, professional and legal obligations, and technics of evaluation and follow-through.

State medical associations, it was reported, have taken the initiative for many successful conferences. They have had the cooperation of educators, public health workers and other groups.

A group presided over by Dr. John D. Porterfield, Columbus, Ohio, Health Officer of the Ohio Department of Health, considered the problem of maintenance of the health of school personnel. It recommended: (1) periodic health examinations; (2) health education and development of good health patterns in teacher training institutions; (3) a healthy economic level with security and retirement; (4) healthy working and living conditions; (5) recognition and prestige, with opportunity to advance professionally; (6) availability of health counseling services.

The group also recommended that health examinations be made a condition of employment.

Though our efforts in this state have not progressed very far it was quite gratifying to note how closely our past efforts conform to the general plan as outlined at this Conference.

School Health is attracting unusual attention throughout the nation and in most cases is back in the hands of the profession where it so rightly belongs. To hold our own in this field and to prevent encroachment from other sources we should, as rapidly as is possible, expand our efforts in our own state to cover as many parishes as possible. Always remember that unless the plan is well organized and operated it is better not attempted. No plan at all is better than a poorly operated and half-functioning one sponsored by our society.

WILLIAM E. BARKER, JR., M. D.

REPORT OF REPRESENTATIVES TO SECTIONAL MEETING OF AMA COMMITTEE ON FEDERAL MEDICAL SERVICES TO VETERANS

Due to the inability of Dr. Pascal L. Danna, Chairman of the State Society Committee on Federal Medical Services, to attend the Regional meeting of the AMA held in Dallas on November 6, I attended the meeting at the request of the President of the Society and beg to report the following:

If you will refer to my report of the meeting held in Chicago during the past summer (this appeared in the October, 1953 issue of The Journal of the Louisiana State Medical Society), you will have before you the policy of the AMA in regard to medical care to veterans with non-service-connected disabilities.

The meeting in Dallas was of one-day duration and was presided over by Dr. Orr, Chairman of the Council on Veterans Affairs of the AMA and attended by Mr. Leo Brown, Director of the Department of Public Relations of the AMA, and his assistant, the three of whom acted as a panel to discuss the various subjects brought before them, which I shall review below.

There were delegates present from Louisiana, Mississippi, Arkansas, Oklahoma and Texas. All these delegates held high offices in their state societies. The purpose of these regional meetings is to present the AMA policy in regard to medical care to veterans with non-service-connected disabilities on a state level and to ask that each state society appoint committees on veterans affairs in each parish or district medical society and that these committees familiarize themselves with the policy of the AMA so that they can indoctrinate each physician in his component society so that he can talk intelligently and help sell this idea to such persons as he sees fit.

It was suggested that the doctors join the American Legion and Veterans of Foreign Wars posts and there present the doctors' side of this question; namely, that within ten years we will have a population of thirty million veterans who, if the present policy

of the Veterans Administration is carried forward, will present a socialized medicine program which has entered through the back door, so to speak. This will entail also a further load in the taxing program of the federal government to take care of these veterans and you will have half of the people being taxed for something for which they receive no benefit whatsoever. Also, if this program is carried forward it will mean the draining of professional and allied help into veterans hospitals, leaving a void in the private and state institutions in this country. Therefore, the people who are paying for this program will at the same time be suffering from lack of medical care themselves due to the monstrosity into which the VA would have grown. As an example, the slow turn-over of beds in VA hospitals, as compared to beds in private hospitals; a VA hospital bed is used only 7 times each year while that of a private institution is used 34 times each year by different patients.

It was suggested that the House of Delegates of each state society act on this matter and let the House of Delegates of the AMA know their stand at the Annual Meeting in June, 1954.

After this educational program has taken place, which will occupy most of the year 1954, we hope to have created so much interest that it will be possible to have the law changed in regard to veterans with non-service-connected disabilities. This may be done in one of several ways. If a doctor knows a United States Congressman or Senator let him contact him personally and explain in detail the AMA's position in this matter; have liaison committees meet with the medical societies and the veterans organizations to explain this program to the individual veteran.

It is hoped that the Hoover Commission will report favorably for the AMA on this idea within the next six to eight months. If it does, we shall lend it all our support.

You have no doubt noticed in the last week or ten days press releases from Washington in regard to a mild change in attitude by the VA in admitting patients to their hospitals with non-service-connected disabilities in that they are now asking them the following five questions:

1. What is the current value of your property, real and personal?
2. What is the current amount of your ready assets in the form of cash, bank deposits, savings bonds, etc?
3. If you own real property, what is the approximate amount of the unpaid mortgage or other indebtedness?
4. What are your average monthly expenditures, including mortgage payments and all other personal expenses, including your expenses for dependents?
5. What was your average monthly income for the last six months, from all sources?

This was discussed in detail at the meeting and it was the consensus of the representatives of the AMA present at this meeting that this was just a smoke screen thrown up by the VA and in a practical way means nothing in that the veteran is not required to take an oath and that the only person who could act on falsification of these questions is the superintendent of each individual VA hospital. They have no social service setup to follow through on these questionnaires and it therefore appears to be just something to befog the issue.

In conclusion, it was stressed that the AMA wants the veterans with service-connected-disability to receive the very finest of medical care.

Respectfully submitted,

W. Robyn Hardy, M. D.

LOUISIANA STATE MEDICAL SOCIETY NEWS

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Morehouse	Third Thursday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Rapides	Second Monday of every month	New Orleans
Sabine	First Thursday of every month	Monroe
Second District	First Monday of every month	Alexandria
Shreveport	First Wednesday of every month	
Vernon	Third Thursday of every month	
Orleans	First Tuesday of every month	Shreveport
Ouachita	First Thursday of every month	

GRANTS FOR SURGICAL FELLOWSHIPS

The Woman's Auxiliary of the United States and Canadian sections of the International College of Surgeons has set aside $6,500 to be used for grants for surgical fellowships.

The announcement was made by Mrs. Walter C. Burket of Evanston, Illinois, national president of the Auxiliary.

The funds as voted by the Auxiliary's board of directors will be distributed as follows:

$3,000 to finance study abroad by an American or Canadian surgeon.

$3,000 to finance study in the United States or Canada by a foreign surgeon.

$500 for a senior medical student at the University of British Columbia, in Vancouver, B. C.

Details of the grants will be announced later.

WEST PALM BEACH INVITES YOU

The Southern District Meeting of the International College of Surgeons is to be held at West Palm Beach, Florida, in the Pennsylvania Hotel on January 29th and 30th, 1954. Surgeons and any other interested doctors of Louisiana are invited to attend the meeting.

The Pennsylvania Hotel is ideally situated on the west bank of Lake Worth and attractive rates have been established by the hotel for this meeting at the height of the Palm Beach social season, and in addition to the attractive entertainment there will be a top-level program featuring top-level surgeons. An informal dinner will be included in the reservation fee of $10.00. Outside events will be arranged for the ladies.

Reservations should be made early by writing The Manager, Pennsylvania Hotel, West Palm Beach, Florida, or Dr. Lloyd J. Netto, Chairman, 416 Comeau Bldg., West Palm Beach, Florida.

GASTROENTEROLOGISTS ELECT

At the Annual Meeting of the National Gastroenterological Association held in Los Angeles, Calif. on October 12, 1953, officers for the year 1953-4 were elected. The meeting was held on the opening day of the Eighteenth Annual Convention at which over 500 physicians from the North American continent were in attendance.

The presidency of the Association was assumed at the annual banquet on Tuesday evening, October 13 by Dr. Sigurd W. Johnsen of Passaic, N. J., who had been President-elect during the past year.

Elected officers for the coming year were: Dr. Lynn A. Ferguson, Grand Rapids, Mich, President-elect; Dr. James T. Nix, New Orleans, La., 1st Vice-President; Dr. Arthur A. Kirchner, Los Angeles, Calif., 2nd Vice-President; Dr. C. Wilmer Wirts, Philadelphia, Pa., 3rd Vice-President and Dr. Frank J. Borrelli, New York, N. Y., 4th Vice-President. Re-elected were: Dr. A. Xerxes Rossien, Kew Gardens, N. Y., Secretary; Dr. Roy Upham, New York, N. Y., Secretary-General and Dr. Elihu Katz, New York, N. Y., Treasurer. Dr. Samuel Weiss, New York, N. Y. was renamed as Editor-in-Chief of THE REVIEW OF GASTROENTEROLOGY.

The Nineteenth Annual Convention of the Association will be held in Washington, D. C. in October of 1954.

BLOOD PLATELET GROUPS IDENTIFIED: OFFERS NEW CLUE TO BLOOD DISEASES

Evidence that the blood platelets, little understood cells which help coagulate blood, can be grouped and typed like the red cells was presented for the first time before the American Association of Blood Banks, meeting in Chicago October 19th.

The importance of the observation, based on more than 50,000 tests, lies in the fact that the four groups and six types so far established are sometimes incompatible, like the four familiar red cell groups and the Rh and non Rh bloods. The discovery is therefore regarded as offering a key to certain types of blood disorders hitherto impossible or difficult to understand and treat.

The report was presented before the sixth annual meeting of the Association by Mario Stefanini,

M. D., for himself and Drs. Jyota B. Chatterjea, M. D., Gerald I. Plitman, M. D., William Damashek, M. D., and Mrs. Irma B. Mednicoff, Research Assistant, all of the New England Medical Center and Tufts Medical School of Boston, Mass. They emphasized that their results are preliminary and must be checked with caution.

ALLERGIES IN NEWBORN MAY BE MINIMIZED BY DIET RESTRICTIONS

Withholding cow's milk from the diet of a newborn child whose parents, brothers or sisters have a major allergy may prevent the infant from developing an allergy in later life, in the opinion of Drs. Jerome Glaser and Douglas E. Johnstone, Rochester, N. Y.

"Pediatricians and pediatric allergists have often observed that food sensitivities occur much more frequently in the first few months of life than in later infaney and childhood and in adults," the doctors wrote in the October 17 Journal of the American Medieal Association.

"It is assumed that a physiological immunologic immaturity exists in the early months of life that results in sensitization and clinical symptoms caused by absorption from the intestinal tract of unaltered proteins in potentially allergic children."

As a result of this and similar observations, the doctors theorized that "if cow's milk protein, which constitutes the chief source of food and is the commonest cause of food allergy in the early months of life, were completely withheld from the infant's diet until this period of physiological immunologic immaturity passed, the symptoms of milk allergy might be minimized or even prevented."

VITAMIN C STRENGTHENS NETWORK FROM TEETH TO GUMS

Dr. Louis J. Baume, University of California dental research scientist, has reported the discovery of a fine network of vitamin C-needing tissues linking the teeth to the gums.

This connective tissue decays when vitamin C is deficient. Pyorrhea and other gum infections may result.

Dr. Baume states that these fibers are "protoplasm in chain form, arranged in bundles that run continuously from one cell into another, thus providing great strength and cohesion."

ASPIRIN REDUCED FEVER IN INFLUENZA AND COLDS FASTER THAN ANTIBIOTICS

Aspirin produced normal temperatures more speedily than the antibiotic drugs terramycin and erythromycin in patients suffering from such acute respiratory infections as influenza, bronchitis and the common cold, according to an article in the *Journal of the American Medical Association* (September 26, 1953).

Studies of the comparative effects of the three drugs on influenza-like diseases, which are believed caused by a virus rather than bacteria, are described in the medical publication by a team of U. S. Air Force doctors.

Their findings show that aspirin brought the patients' temperature down to normal in an average of 30 hours, compared with 41 hours for terramycin and 42 hours for erythromycin. The evidence indicates that the antibiotic drugs had no influence on the course of these diseases, nor was use of these drugs necessary since no secondary bacterial infections developed in any of the patients tested.

NEW RADIOPAQUE AGENT PROVIDES PRE-OPERATIVE BILE DUCT X-RAYS

Tests on more than 300 patients have demonstrated that the new contrast medium Telepaque is "an ideal substance for the study of the biliary tract," providing radiologists and investigating surgeons with "tremendously important" pre-operative views of the biliary ducts, according to Louis P. Divilio of the Department of Radiology, Grace-New Haven Community Hospital, New Haven, Conn.

A major purpose of the tests was to study the evacuation phase of the vesicle, he writes in *The X-Ray Technician* (Vol. 25:1, 1953.) Using multiple serial films, it was found that best visualization and optimum time for study of gall bladders filled with Telepaque was 10 to 12 hours following oral administration of the dye. Adequately visualized gall bladder density was also obtained in six hours. Films were made of patients in postero-anterior, left oblique prone and postero-anterior upright positions.

Gastric emptying was stimulated by means of an inexpensive fatty meal consisting of eight ounces of chocolate ice cream and four to six ounces of peanut oil mixed in a blender, the investigator notes. In many cases, ice cream with a high butter fat content also proved sufficient to cause contraction of the gall bladder so that the biliary ducts could be viewed.

Telepaque was well tolerated and produced fewer and less pronounced side reactions than other radiopaque agents, according to the study. Fewer cases of non-visualization were also encountered with the medium, which contains 66.68 per cent iodine, and it was determined that the right posterior oblique position provided better views of the ducts.

BOOK REVIEWS

Acute Peripheral Arterial Occlusion, by William D. Holden, M. D. Springfield, Illinois, Charles C Thomas, 1952, pp. 57. $2.35.

This monograph, which is one of the American Lecture Series, presents an excellent review of present day knowledge concerning acute peripheral arterial occlusion. The author concisely discusses diagnosis, etiology, pathological physiology, clinical manifestations, and management based on his own observations and well selected references from the literature. In considering the diagnostic phases of acute arterial occlusion, emphasis is placed on clinical observations rather than on elaborate instrumental studies. In his presentation of management, the methods recommended are sound. Not only of interest to surgeons, this little book could be read and referred to by general practitioners or internists who often see patients with acute peripheral arterial occlusion before they are seen by a surgeon.

AMBROSE H. STORCK, M. D.

Second Annual Report on Stress, 1952, by Hans Selye, M. D. and Alexander Horava, M. D. Montreal, Canada, Acta, Inc., 1952. pp. 526. Price $10.00.

This volume represents the second of a series of annual supplements to the book *Stress—The Physiology and Pathology of Exposure to Stress*, published by Selye in 1950. Its object is to serve as a guide to the entire literature on stress by compiling and sorting out the publications which appeared during the previous year. Since over 4,000 publications are listed, the task was a very arduous one. The report is written as a classified index of pertinent new facts with a concise evaluation of the principal findings. It is divided into three parts, preceded by an introduction.

In the introduction, the author attempts to evaluate the criticisms that have been levelled at the stress concept and cites recent experiments which would tend to support the general concept although leaving some question regarding specific details, such as the action of ACTH, and the involvement of the adrenals in rheumatic and other diseases. The first part presents references on the general physiology and pathology of stress, part II presents publications on special physiology and pathology of stress and part III is entitled "Afterthoughts" and presents a brief "sketch for a unified theory of medicine."

It should be emphasized that this is not a text monograph and certainly cannot be used as such. However, it should be invaluable to the investigator and clinician who is interested in the progress in the many and varied fields included in the concept of the general adaptive syndrome. The reader may, perhaps, question some of the statements and interpretations made in some of the introductory or summary remarks, but he will be grateful to the authors for having simplified the task of keeping abreast with the literature of this fast-moving field.

WALTER S. WILDE, Ph. D.

Rypins' Medical Licensure Examinations; edited by Walter L. Bierring. 7th ed. Philadelphia, Pa., Lippincott Company, 1952. pp. 856. Price $8.00.

This revised edition (7th) gives the examinee a firm footing on which to base his review of the basic sciences and clinical sciences. The material has been brought up to date and includes the fundamentals of the subjects treated. There is a tendency not to review the questions at the end of each section. For the benefit of those taking Florida State Boards the section on chemistry is inadequate, since one must be prepared for taking an examination on inorganic high school chemistry.

JAY STANGER, M. D.

Manual of Clinical Allergy; by J. M. Sheldon, M. D.; R. G. Lovell, M. D., and K. P. Mathews, M. D. Philadelphia, W. B. Saunders, 1953. pp. 413, illus. Price $8.50.

A very useful and practical text which brings together information not otherwise so readily accessible. Precise details of making extracts and the sundry allergic tests are given. The section on contact dermatitis is particularly helpful.

VINCENT J. DERBES, M. D.

Founders of Neurology; One hundred and thirty-three biographical sketches, prepared for the Fourth International Congress in Paris, by 84 authors; ed. by Webb Haymaker, M. D., with the bibliographical and editorial assistance of Karl A. Baer. Springfield, Ill., Charles C Thomas, 1953. Por. pp. 479. Price $10.50.

Since the history of a subject can only be the total of the contributions of workers in that field, this volume is indeed a source-book of the history of neurology. Contributions of 133 neurologists are described and documented by references to the literature and often by portraits. Wherever possible every effort has been made to relate the circumstances which led to the discoveries. The individual biographies are arranged in such a way as to give continuity in the history of the subject. The volume will be an invaluable reference book for the neurologist, the student, the historian, and the medical library.

MARY LOUISE MARSHALL.

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(The Council on Pharmacy and Chemistry of the American Medical Association has adopted the following statement which appears in New and Nonofficial Remedies, 1953, Philadelphia, J. B. Lippincott Company, pp. 171-173, 1953.)

Methantheline Bromide.—*Banthīne Bromide (Searle)*

β-Diethylmethylaminoethyl 9-xanthenecarboxylate bromide

Actions and Uses.—Methantheline bromide, a parasympatholytic agent, produces the peripheral action of anticholinergic drugs such as atropine and the ganglionic blocking action of drugs such as tetraethylammonium chloride. Tolerated amounts of methantheline bromide exert side effects typical of atropine-like drugs, but cause less tachycardia, and also cause less postural hypotension than does tetraethylammonium chloride. Toxic doses produce a curare-like action at the somatic neuromuscular junction.

Clinical studies indicate that the drug effectively inhibits motility of the gastro-intestinal and genito-urinary tracts and, to a variable degree, diminishes the volume of perspiration and salivary, gastric, and pancreatic secretions. It also decreases mucoprotein secretion. Like atropine, it produces mydriasis and cycloplegia when applied locally to the eye or administered systemically, but until more clinical evidence becomes available, its local use for this purpose is not recommended. The value of the drug for preventing abnormal cardiac reflexes through the vagus during thoracic surgery, or as an agent for routine preoperative medication in place of atropine, requires further investigation before final conclusions can be reached.

Methantheline bromide is indicated for clinical use whenever anticholinergic spasmolytic action is desired, provided it is not contraindicated because of its atropine-like characteristics or because of a patient's intolerance to the unavoidable side effects of such therapy. It is useful as an adjunct in the management of peptic ulcer, chronic hypertrophic gastritis, certain less specific forms of gastritis, pylorospasm, hyperemesis gravidarum, biliary dyskinesia, acute and chronic pancreatitis, hypermotility of the small intestine not associated with organic change, ileostomies, spastic colon (mucous colitis, irritable bowel), diverticulitis, ureteral and urinary bladder spasm, hyperhidrosis or control of normal sweating which aggravates certain dermatoses, and control of salivation.

Methantheline bromide produces some degree of cycloplegia and mydriasis in therapeutic doses and therefore should not be administered to patients with glaucoma. It sometimes decreases the ability to read fine print. Xerostomia (dryness of the mouth) is a common, sometimes transient, side effect. Urinary retention of varying degrees may occur in elderly male patients with prostatic hypertrophy, and some patients may have difficulty emptying the rectum. Patients with edematous duodenal ulceration may experience nausea and vomiting during initial administration of the drug. These patients should take only liquids during the institution of drug therapy. All patients should be advised of the possible occurrence of side effects. Overdosage sufficient to produce a curare-like action may be counteracted by prompt subcutaneous injection of 2 mg. of neostigmine methylsulfate.

Dosage.—Methantheline bromide is administered orally or parenterally by either the intramuscular or intravenous route. Parenteral administration is not advised for patients able to take the drug orally. The average initial dose for adults, oral or parenteral, is 50 mg. For patients with considerable intolerance, 25 mg. may be employed. In the management of peptic ulcer, a beginning schedule of 50 mg. three times daily before meals, and 100 to 150 mg. on retiring is suggested. However, the usual effective dose is 100 mg. four times daily, although some patients may require more or less than this amount. The dosage may be increased to tolerance, using dryness of the mouth as a guide, and adjusted to meet the individual response of patients. Maintenance dosage in peptic ulcer is usually considered to be about one-half the therapeutic level. In the management of other hypermotile or hypersecretory states, the dosage should be adjusted to the smallest amount which will relieve the symptoms. When spastic conditions are secondary to inflammatory or other organic lesions, therapy directed toward the cause should be employed whenever possible.

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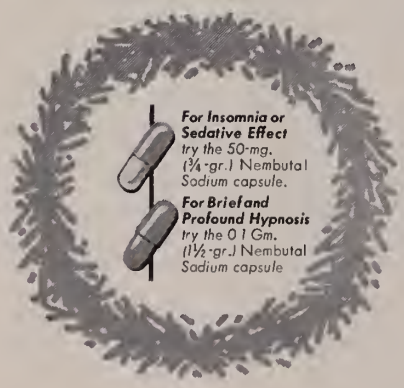

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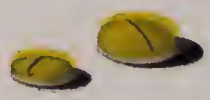

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Nitrofurantoin is useful by oral administration for the treatment of bacterial infections of the urinary tract and is indicated in pyelonephritis, pyelitis, and cystitis caused by bacteria sensitive to the drug. It is not intended to replace surgery when mechanical obstruction or stasis is present. Following oral administration, approximately 40% is excreted unchanged in the urine. The remainder is apparently catabolized by various body tissues into inactive, brownish compounds that may tint the urine. Only negligible amounts of the drug are recovered from the feces. Urinary excretion is sufficiently rapid to require administration of the drug at four to six hour intervals to maintain antibacterial concentration. The low oral dosage necessary to maintain an effective urinary concentration is not associated with detectable blood levels. The high solubility of nitrofurantoin, even in acid urine, and the low dosage required diminish the likelihood of crystalluria.

Nitrofurantoin has a low toxicity. With oral administration it occasionally produces nausea and emesis; however, these reactions may be obviated by slight reduction in dosage. An occasional case of sensitization has been noted, consisting of a diffuse erythematous maculopapular eruption of the skin. This has been readily controlled by discontinuing administration of the drug. Animal studies, using large doses administered over a prolonged period, have revealed a decrease in the maturation of spermatozoa, but this effect is reversible following discontinuance of the drug. Until more is known concerning its long-term effects, blood cell studies should be made during therapy. Frequent or prolonged treatment is not advised until the drug has received more widespread study. It is otherwise contraindicated in the presence of anuria, oliguria, or severe renal damage.

Dosage.—Nitrofurantoin is administered orally in an average total daily dosage of 5 to 8 mg. per kilogram (2.2 to 3.6 mg. per pound) of body weight. One-fourth of this amount is administered four times daily—with each meal and with food at bedtime to prevent or minimize nausea. For refractory infections such as Proteus and Pseudomonas species, total daily dosage may be increased to a maximum of 10 mg. per kilogram (4.5 mg. per pound) of body weight. If nausea is severe, the dosage may be reduced. Medication should be continued for at least three days after sterility of the urine is achieved."

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Well, as it turned out, the red ribbon worked just fine. The ladies are having the library all fixed up—and there's enough money for some new books, too.

From where I sit, it would be a fine thing if we had some sort of private reminder when we forget the rights of others. Like when we start telling them how to practice a profession or what to choose for a beverage. I like a travel book and a temperate glass of beer—while you may prefer a cup of tea with a historical novel. But let's not "put the finger" on one another.

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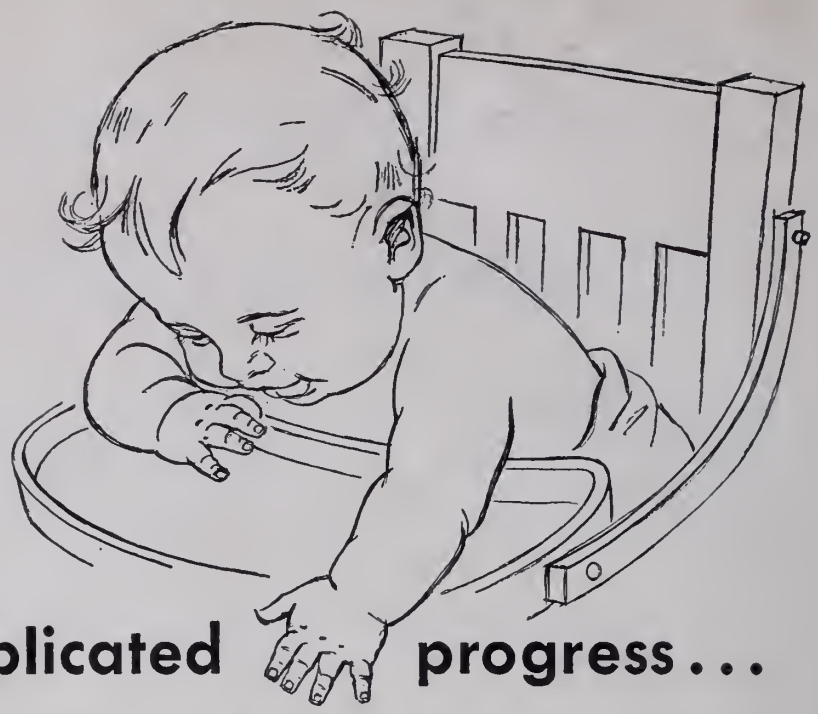

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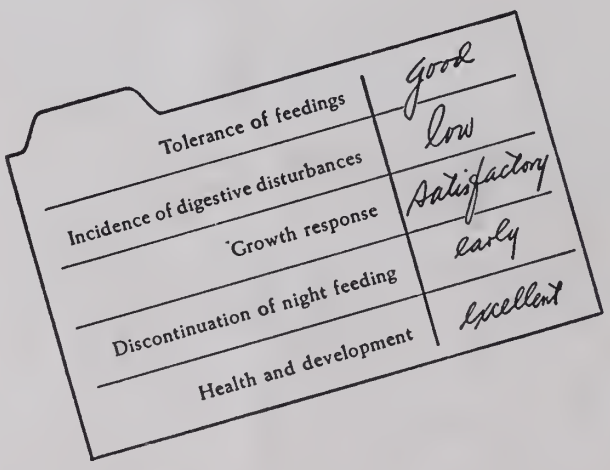

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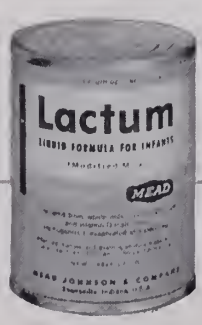

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